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ABSTRACT

Alternatives to the standard lecture course in introductory economics are presented in this series exploring new teaching methods in college level economics. In this issue "elementary" or introductory economics taught at Vanderbilt University is described. It relies on two techniques: case method and self-paced instruction. Self-paced instruction is seen to provide mastery of economic principles while case study reinforces theory by applying it. The rationale for the course and the components of the course--techniques to ensure mastery learning, evaluation plans, use of proctors, record keeping, cost vs. benefits, course adaptations, and choice of textbooks--are spelled out in the introduction. The bulk of the document consists of the course syllabus and study guides for each of the 10 self-paced sections and for the final examination. Included in the appendixes are an example of a case study, an article on developing independent problem-solving ability in elementary economics, and textbook alternatives keyed to the self-paced syllabus. Also provided in the appendix is "The Case Method in an Otherwise Conventional Course," a course description containing instances where case study is incorporated in a lecture class. An "Afterword" notes changes that the authors would like to make in the content of various sections of the self-paced course. (JH)

O. J. Van Den Heuvel
• Rendigs Fels

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The Vanderbilt-JCEE Experimental Course in Elementary Economics

Rendigs Fels
Vanderbilt University

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THE JOURNAL OF ECONOMIC EDUCATION

To promote the teaching and learning of economics in colleges, junior colleges and high schools by sharing knowledge of economic education.

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Foreword

Several years ago the Joint Council—in cooperation with the American Economic Association's Committee on Economic Education—undertook a project to explore alternative approaches to teaching the college introductory economics course.

Although dissatisfaction with the introductory course has a long history, it was not the purpose of our project to come up with "the" introductory course. Rather, our goals were to develop alternative approaches that overburdened professors in the two- and four-year colleges might find more useful than their current offerings and to encourage others to improve and expand upon the Joint Council's efforts.

The following course syllabus is only one of several that the Joint Council will publish in the coming months. The Council is grateful to all those who participated in the project, and to The American Bankers Association and the Alfred P. Sloan Foundation for their generous support.

Arthur L. Welsh

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Description of the Vanderbilt-JCEE Experimental Course in Elementary Economics

Rendigs Fels

Introduction

The Vanderbilt-JCEE experimental course in elementary economics is one of a number of experimental courses sponsored by the Joint Council on Economic Education. The JCEE wants to increase the options available to teachers of the beginning course in college economics. Many instructors have heavy teaching loads and are at colleges with resources too limited to permit development of experiments of their own. They usually have to adopt a standard textbook approach for want of a feasible alternative. The JCEE intends to provide alternatives by publishing enough details about its experimental courses to permit replication elsewhere—or rather, to facilitate adaptation to local situations. The syllabus and study guides that follow this introductory paper provide such details for the course developed at Vanderbilt.

What's wrong with the standard textbook approach? Why are alternatives wanted? Standard textbooks are typically overloaded. All too often instructors feel obliged to assign the whole book, leading to overloaded courses. As a result, the student gains vague familiarity with a wide range of economic theory and mastery of none of it.[1] In addition, the typical course provides no training in the skills of applying economic principles. To be sure, books of readings are commonly assigned which illustrate how professional economists use their theory to analyze empirical problems and policy questions, but the students are not trained in doing it for themselves. Finally, the standard textbook course is also a lecture course, and the lecture method is obsolete.[2]

The Case Method

Part of the Vanderbilt experimental course is now well developed. This part is the adaptation of the case method to economics. The essence of the case method as used in business schools and law schools consists of requiring students to think through real-world problems for themselves. This means for our purpose developing skill in thinking through conclusions on policy issues in a systematic way. Learning these skills requires practice. It is not easy. We cannot assume, as many teachers do, that the be-all and end-all of the elementary course is teaching theory. We cannot assume that if students learn theory in the abstract they will *ipso facto* be able to apply it.

Case 1974-1, entitled "Information, Please," is reproduced in Appendix A to illustrate the case method. It consists of a newspaper article reporting the 20¢ charge instituted by the Cincinnati Bell Telephone Company for directory assistance, the

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approval of the charge by the Ohio utility commission, and the opposition by a group of telephone subscribers. Students are asked to analyze for themselves the effects of charging for directory assistance on economic efficiency and on income distribution. They are also expected to apply their value judgments to reach their own conclusions on whether utility commissions should permit charging for assistance. The sample answers in Appendix A are provided for the teacher, not the student. They are samples of how the questions at the end of the case might be answered. They are not put forward as "right" answers, since they depend on judgments—both factual judgments and value judgments. A collection of cases edited by Robert G. Uhler and myself has been published [6]. A fuller discussion of the purposes of the case method is contained in [5], reproduced here as Appendix B.

The case method can be used in conjunction with an otherwise conventional course. This is the way it has mainly been used so far. Cases are used for class discussion, term papers, and quiz questions in combination with a standard textbook and lectures. Details of this kind of use of the case method can be found in Appendix D.

Although the case method has worked well as part of a conventional course, it calls for greater mastery of economic principles than elementary students commonly get. The case method is not a substitute for teaching theory but a complement to it. Students cannot learn to apply economic principles without first learning the principles themselves. More than that: students have to have an extra firm grasp on the principles, a better grasp than is required to answer typical multiple choice questions.

Personalized System of Instruction

We hope to achieve the objective of mastery of principles by combining the case method with the self-paced personalized system of instruction (PSI) pioneered by Fred S. Keller.[3] In PSI, there are virtually no lectures. Students are given an assignment, study it with the help of a proctor, and take a test when they think they are ready. The criterion for passing is mastery—70 percent is not acceptable. Students who pass go on to the next assignment. The others are recycled—for the sake of morale, they are never said to fail. They restudy the assignment and take another test. Grades depend on how many assignments are completed.

Although use of PSI in economics has been limited till now,[4] it has been used extensively in other fields. A large literature has developed. Forty-one papers, many of which had been published previously, are found in [10]. The research findings on the method have been summarized by [7]. The nearly universal conclusion in the published literature is that students like PSI.[5] They learn at least as much as in conventional instruction. Often they learn significantly more. Apparently whether they do or do not learn more depends on the details of the PSI course. In particular, the criterion for passing must be mastery. If the criterion is 70 percent, learning is no greater than for other methods. Students work harder in PSI courses. Grade distributions are high: the median grade is typically A. Some PSI courses have experienced a high rate of dropouts, but ways to avoid this problem are now known.

The great advantage of PSI lies in the powerful incentives it gives students. They know exactly what they have to do to get an A or a B or a C; they know they will not be graded on a curve. PSI avoids adverse effects on morale from failure. In addition, PSI permits students to work at their own pace. The bright ones can race ahead, the less bright can take the time they require really to learn the assignments. Still another advantage is the amount of personal contact between student and instructor. Freed from the need to prepare and give regular lectures, the instructor devotes time to the individual needs of students.

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The PSI version of the Vanderbilt-JCEE experimental course in elementary economics gives students an opportunity to earn up to 80 points during the semester and up to 20 more points on a final examination. An A requires 90 points, a B 80, and so on. In the syllabus that immediately follows this introduction, there is a form used for recording the student's progress. It also summarizes the way the course is organized.

Basic Concepts

For each of seven sections on economic principles, there is a written test of basic concepts worth 4 points. These tests are on the concepts students must know before they can use the concepts for analysis. The students are given the questions in advance. The criterion for passing is 100 percent. The seven tests on basic concepts are in the study guides following the syllabus (see below) and are worth a total of 28 points.

Analytic Tests

For each of the seven sections on economic principles there is an analytic test worth 4 points which can be taken only after the corresponding test on basic concepts has been passed. Samples of the kinds of questions asked on the analytic tests are in the study guides (see below). The students do not get the actual questions in advance. But the actual questions are similar, so that a student who thoroughly understands the sample questions should be able to handle the questions on the real test. For obvious reasons, the real tests are not reproduced here, but any instructor wanting to adapt the Vanderbilt course to his purposes can obtain a set from the author. As the samples indicate, the questions are abstract (in contrast to the questions in the case discussed above on directory assistance). The criterion for passing is functionally correct answers to all questions. In the analytic tests, provision must be made for the kind of slips and errors that people commonly make on new questions even when they know a subject well. That is the rationale for the phrase, "functionally correct answers."

The analytic test may be taken in either written or oral form. The written version is given only once during the semester on a date specified in the syllabus. Students who work ahead, fall behind, or get recycled are given oral tests when they are ready. There are three reasons for giving the written test only once. To give it whenever students were ready would require having at least four versions that have been pretested on enough students to establish their equivalency. At the outset, this is not practicable, and in any event it would create a security problem. More important, the schedule of written tests communicates more effectively than mere words ever could exactly what should be considered normal progress in the course, a safeguard against students falling far behind and then trying to make up lost ground at the end of the semester. Most important of all, students who get recycled on the written test take an oral test the next time. The oral test is much more than a device for measuring what the student knows. It is a powerful method of teaching. The students get instant feedback on what they are doing right and how they need to improve, and the proctor or instructor not only teaches them during the exam but also finds out what kind of help the students need. The written test followed by an oral test makes it possible to identify those having trouble and give them instruction that is personalized as well as self-paced.

By passing the fourteen tests on basic concepts and abstract analysis, students earn 56 points. They must do so to pass the course at all. Even if they do nothing more, they can get a C by scoring 70 percent (14 points out of 20) on the final examination. In one sense this is a higher standard than is normally required for a C.[6]

Policy Cases

Sections VIII, IX, and X of the course provide an opportunity to earn points by passing tests on policy cases. Case 1974-1, "Information, Please," in Appendix A is an example of a policy case. Students are expected to analyze the issue in a systematic way and reach intelligent conclusions of their own. The Fels-Uhler *Casebook* describes and illustrates the use of a standard operating procedure designed to insure that students use economic analysis and really come to grips with the issue, rather than merely rationalizing preconceptions.

There are three stages to training students to analyze policy cases, each divided into micro and macro. At the elementary stage (Section VIII), the students are given a case on a micro policy issue such as the all-volunteer army. They study the case, work out their positions on it, and then spend an hour writing it up without benefit of notes or books. If their essays are approved (the criterion is "excellence"), they go on to a similar assignment and test on a macroeconomic policy. At the intermediate stage (Section IX), the students have to be prepared on four cases for each of the two tests, one of which is chosen by lot for them to write on. If the written work is approved, they are quizzed briefly on the other three cases (to prevent gambling on the one-in-four odds). At the advanced level, each of the two tests is on a case the student has never seen before.

Students who earn 24 points on cases in addition to the 56 on principles go into the final examination with 80 points. They are guaranteed B's and are virtually assured of A's. If they earn 72 points during the semester, they have a good chance at an A but need to do well on the final to get it. We expect a higher proportion of A's than in comparable Vanderbilt courses, but a lower proportion than in typical PSI courses. This may mean that the Vanderbilt experimental course will not provide incentives as strong as PSI normally gives. We are sacrificing the prospect that anybody can get an A in order to set standards high.

The Final Examination

Retention of a conventional final examination is to some extent a departure from PSI procedures. Logic would call for either dispensing with it altogether or grading it on a pass-fail basis with A-minus the criterion for passing. We rejected these alternatives for two reasons. Reviewing for a final contributes significantly to reinforcement of knowledge and, we believe, to long-run retention. In addition, we want to have some way to evaluate how much the students learned. The final examination will be the same as for another elementary course conventionally taught. The final is worth up to 20 points. This gives students an incentive to do well without departing very far from the spirit of PSI. Students who work ahead may take an oral final before the usual examination period.

Evaluation

The amount of evaluation done so far has been limited. The results have been good enough to encourage us to go on. Except for a pilot project in the summer of 1972 (details are available from the author), the PSI version of the Vanderbilt experimental course is being given for the first time in the fall semester of 1974. It will be evaluated in three ways. One will be the common final examination with a conventional introductory course mentioned in the preceding section. The results will be analyzed by multiple regression techniques with the independent variables that are usual in such work. The second way involves a student evaluation questionnaire used at Vanderbilt in other courses and in previous years. The third way will consist of

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following the courses and majors selected by PSI students after the course is over in comparison with the control group. What percentage takes more courses in economics? What percentage majors in it? We anticipate results similar to other PSI courses: Students will like the experimental course, and they will score at least as well on the final examination, perhaps better.

Mastery vs. Coverage

The experimental course deliberately trades off coverage for mastery. The number of chapters assigned in the textbook is considerably lower than in the conventional version of the introductory course at Vanderbilt. This is one reason for expecting that on a common final examination the students will appear to know about the same amount irrespective of whether they were in the experimental or the control group.

Proctors

In PSI courses, an undergraduate proctor is needed for every ten students enrolled in the course. An instructor can supervise a maximum of ten proctors. The enrollment therefore is limited to 100 students in addition to the proctors.

With one exception, the proctors chosen for the fall of 1974 are juniors and seniors who have had several courses in intermediate economics. One of the proctors has had only two semesters of introductory economics. We believe that that is enough.

The proctors themselves take all the tests to make sure that they are qualified to help their students. The proctors answer students' questions, administer tests, and give provisional grades to tests and papers. A proctor who determines that a test or paper falls short of the mark returns it to the student immediately with an explanation. All tests approved by the proctor are reviewed by the instructor or the graduate assistant before points are awarded. This procedure is designed to insure that standards are maintained. I give the first oral test with the proctor present. The proctor gives the second oral test with me present. As I gain confidence in the proctors, I put them increasingly on their own.

On the principle that the best way to learn a subject is to teach it, the proctors get three semester hours of academic credit. They work hard for it. I try to limit the burden on them to ten hours a week for fifteen weeks (150 hours altogether). They are not subject to a final examination. If they all do their jobs right, they will all get A's. I shall be able to judge their performance by reviewing the written tests and papers they have approved, by observing the oral examinations they administer, and by holding weekly meetings for discussion of problems.

Records and Reports

The proctors are responsible for keeping the official record of the progress of each student with a backup file containing all tests and papers of passing quality and written certification of any oral test passed. Each week a summary is prepared. Two charts and a table are posted on the wall. The table lists every student by name and shows the dates of passing each test. A line chart shows at weekly intervals the total points earned by all students in the course. A bar chart shows the percent of students who have passed each test.

Costs vs. Benefits

Any instructor considering whether to try out the Vanderbilt experimental course wants to know about costs, particularly the costs in terms of the instructor's time. (We can ignore our development costs, which have been borne by the Joint Council.)

Instructors who adapt to local conditions a course developed elsewhere inevitably do more work than if they went on doing what they have always done. This kind of startup cost is inherent in doing anything different. It is significant but not prohibitive.

Once the startup costs have been incurred, the question of whether the burden on the instructor will exceed the burden of conventional instruction depends partly on local circumstances and partly on how much credit the instructor gets for teaching the proctors. An instructor of a PSI course with ten proctors and one hundred students normally does more work than in a lecture course with one hundred students. (He also normally thinks it is worth it.) If the administration of his college recognizes that the instructor is really teaching two courses—one for the proctors—PSI under those circumstances is economical.[8] The cost of PSI may be prohibitive if the alternative is a lecture class of five hundred, since one hundred is the usual PSI limit. But if class size is normally twenty or thirty, PSI may be economical even if teaching the proctors is not counted.

Adapting to Local Circumstances

No instructor would, could, or should duplicate the Vanderbilt-JCEE experimental course exactly. In a conventional textbook course, the instructor adapts the author's plan to local conditions, selecting the chapters to be assigned, the order in which they are to be studied, the supplementary reading, and the examination questions. The same applies to the experimental course described here. In particular, the students may have higher or lower Scholastic Aptitude Test (SAT) scores than those at Vanderbilt. Changes will be desirable for other reasons as well.

Vanderbilt students come from all parts of the country and many parts of the world, including a number of blacks and people from less affluent families. But typically they are nice, quiet, upper middle-class southerners who call their instructor "sir" if, as usually is the case, he is male. The entering freshman class in 1972 had a median SAT score of 1,200 (sum of verbal and quantitative).[9]

Making the Course Harder

The experimental course can readily be adapted to the needs of students superior to those at Vanderbilt. One way is to reduce the number of points awarded for certain assignments and to increase the number of assignments accordingly. In particular, one or more sections on problem cases can be inserted following the seven sections on economic principles.[10] Papers on policy issues can be assigned. The analytic tests can be made more difficult by substituting harder questions. All the tests can be graded stringently.[11]

Making the Course Easier

There are many ways to make the course easier. To some extent there may be an automatic adjustment to local standards in grading tests. The sections on the balance of payments (Section VI) and advanced economic policy (Section X) can be eliminated, with the number of points awarded for other assignments raised accordingly. The questions on analytic tests could be rewritten to make them easier. The most difficult ones could be eliminated altogether. Some of the questions on the tests of basic concepts could be also eliminated (e.g., question 12 on Test II-A) or the criterion for passing could be reduced to 90 percent (but no lower). Papers could be substituted for the tests in Sections VIII and IX with the student given an opportunity to revise unsatisfactory papers in response to criticism. The period of time for completing the course and the number of semester hours of credit can be increased.

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Simplification

The plan detailed in the syllabus and study guides below can be simplified. In particular, only one textbook should be authorized. The options described in some of the Study Guides can be eliminated. Other changes will be dictated by local circumstances.

Choice of Textbook

The Vanderbilt-JCEE experimental course can be used with any standard textbook. The two specified in the syllabus and study guides below were chosen for local convenience. One of them is currently being used in the other introductory courses at Vanderbilt (including the one that follows the experimental course or the conventional alternative). The other had been used by the proctors when they took the elementary course. Suggestions for appropriate assignments in two other textbooks are given in Appendix C.

Helpful Hints

Anyone interested in trying out the experimental course should become familiar with the literature on PSI, particularly [10 and 7]. Especially recommended in [10] are Chapters 1, 2, 3, 11, 22, 23, and 24 (by Keller, McMichael and Corey, Corey and McMichael, Green, Sherman, and Szydlik).

In a PSI course, the instructor becomes responsible for a good deal of administrative work. Careful record keeping is vital.

If possible, the course should be tried out on a small number of students before it is tried on a full-sized class. The PSI version of the Vanderbilt experimental course was tried initially in the summer of 1972 (details are available from the author). The version described here as the plan for the fall semester of 1974 was tried out with two proctors and two students during the preceding summer in order to get some of the bugs out. In a PSI course, a great deal of the work of the instructor must be done before the course begins. All the details must be worked out carefully. In a PSI course, you can't get away with staying one day ahead of the class.

Conclusion

In a research sense, economic education is a new field scarcely ten years old. Because it is new, it is an exciting field to work in. Once upon a time people publishing on subjects related to economic education did so off the tops of their heads. Now evidence is being substituted for casual empiricism, and knowledge is beginning to accumulate. But economic education is a difficult field to work in. For practical reasons, most experiments are conducted at only one school. The results are suggestive, but hardly anything gets proved beyond a reasonable doubt. What happened at Broken Elbow State Teachers College in 1972 throws little light on the educational problems of John Eli University in 1975. To make progress, similar if not identical experiments need to be carried out on dozens of campuses. It is to be hoped that publication of details about the Joint Council's experimental courses, including this one, will lead to such replication and the accumulation of knowledge.

Footnotes

[1]Overloading is sometimes carried to ridiculous extremes. A student in her second semester of economics recently said to a full professor that she had trouble keeping in mind Hick's four concepts of consumer surplus. The professor had to confess that he could not help her, since he did not keep them in mind either. Then there is the story about the student who had Samuel-

son for a text in the elementary course—not *Economics* but the *Foundations of Economic Analysis*? Such absurdities result from highly trained economists wishing to teach all the theory they learned in graduate school. Of course, they are not typical. But the urge to teach too much—the input-output fallacy of thinking that the more you put into a course the more the students will get out of it—permeates the teaching of economics. Textbook authors are not to blame. They give the market what it wants. Or, rather, they provide what the instructors want. Unfortunately, the prestige system in academic life is such that the numerous instructors who would not of their own accord overload their courses are induced—and in some cases pressured—to imitate the brightest and the best. In addition, community and junior colleges are under pressure to conform to what goes on in the big prestigious universities where the urge to teach all of economic theory in the first year is strongest.

[5]The evidence, as far as elementary economics is concerned, can be found in [1, 2, 4 and 8]. Counterevidence is in [3]. There are two circumstances in which the lecture method is appropriate. As Bach's contribution [3] shows, a superior lecturer has a positive value added. Outstanding lecturers therefore should lecture. But this applies to only one instructor in twenty. The lecture method is also justified when the material to be taught is in the lecturer's head and not available through other media such as books. This, the original justification for widespread use of the lecture approach, still applies to some parts of the world and to some subjects. But it has long since ceased to apply to elementary economics in the United States. That is the reason for saying the lecture method is obsolete.

[6]See his "Good-bye, Teacher . . ." reprinted in [10, pp. 3-16]. Semantically PSI should stand for personalized *self-paced* instruction rather than personalized system of instruction, but the terminology has become too rigidly fixed to be budged.

[7]A published account of a PSI course in economics is [9]. An unpublished one is referred to in [7]. I know of several others.

[8]The one published exception is reported in [10, pp. 125-27]. I know of an unpublished one. There are probably others, since there is a bias toward *publishing* successes and burying failures. The moral from the exceptions to the rule is merely that any good scheme can be loused up in the execution.

[9]As noted below, coverage is traded off for mastery. Nevertheless, getting a C in the PSI course makes greater demands on the student than the conventional alternative.

[10]Experimental courses normally have somewhat different objectives from conventional courses. This makes it almost impossible to compare the amount of learning—a point that has been neglected too much in previous research in economic education. An index number problem is involved. If one group gets greater mastery of a limited amount of material while the other group gets familiarity with a great deal more, a test can be written that will favor either group. Limiting the test to questions that are "fair" to both groups does not solve the problem. It biases the result in favor of the group with less coverage. The choice between the two kinds of courses boils down to which is more important, coverage or mastery? I opt for mastery. I suspect that everyone else would too if they knew how to achieve it. Elementary textbooks are encyclopedic and elementary courses overloaded not only because of misconceptions like the input-output fallacy mentioned above but also and mainly because we have not known how to achieve mastery and therefore have settled for coverage.

[11]Learning by teaching is the great unused resource of American higher education. The proctors can be expected to get more out of the course than the students. I have hardly ever encountered the slightest opposition to *giving* proctors academic credit for their work. Academicians have all had the experience of learning more than the students the first time they taught a course. Yet, it is almost impossible to see the idea that the teacher of a PSI course is really teaching two courses and is entitled to appropriate recognition for doing so. Two PSI courses should be counted as three courses in the instructor's teaching load.

[12]The figure given is for the College of Arts and Science. The figures for the Schools of Engineering and Nursing are somewhat lower.

[13]The original plan for the 1974 PSI version of the experimental course included a section on problem cases. A problem case requires students to apply economic principles to a real-world context. For example, Case 9 in the Fels-Uhler *Casebook* quotes at length from President Nixon's speech of August 15, 1971. Included is his statement, "Tax cuts to stimulate employment must be matched by spending cuts to restrain inflation." Students are expected to see and explain the inconsistency. Questions in the case are structured to lead them to do so. The purpose of including a section on problem cases would have been to develop skill in using economic principles to analyze and evaluate journalistic reports. Sober second thought made it clear that a choice had to be made between problem cases and policy cases—we could not hope

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for Vanderbilt students to develop such kinds of skill in one semester. We spend for training them to deal with policy issues as the most important objective.

Although the criterion for passing PSI tests is always mastery, that word can mean different things. The proctors must have a greater mastery than the students since the proctors must be able to make the ideas clear to beginners, and the instructor needs greater mastery yet. As pointed out above, at Vanderbilt we settle for "functionally correct answers" to analytic questions. When written answers are doubtful, the proctors are permitted to quiz the students orally, and if they can clear up the doubts, they are passed. The course could be made harder by recycling them in such instances and requiring that written answers be understandable to people without economics training.

REFERENCES

1. Richard E. Attiyeh, G. L. Bach, and Keith G. Lumsden, "Factors Affecting Student Learning of Elementary Economics," in *Recent Research in Economics Education*, Keith G. Lumsden, Ed. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1970, pp. 67-69.
2. _____, _____, and _____, "The Efficiency of Programmed Learning in Economics: The Results of a Nationwide Experiment," *Am. Econ. Rev.*, 59 (May 1969), 217-233.
3. G. L. Bach, "A Further Note on Programmed Learning in Economics," *Journ. Econ. Educ.*, 1 (Fall 1969), 56-59.
4. Stephen G. Buckles and Marshall E. McMahon, "Further Evidence on the Value of Lectures in Elementary Economics," *Jour. Econ. Educ.*, 2 (Spring 1971), 138-144.
5. Rendigs Fels, "Developing Independent Problem-Solving Ability in Elementary Economics," *Am. Econ. Rev.*, 64 (May 1974), 403-407.
6. _____, and Robert G. Uhler, Editors, *Casebook of Economic Problems and Policies: Practice in Thinking*. St. Paul, Minn.: West Publishing Company, 1974. Second edition forthcoming, 1975.
7. James A. Kulik, Chen-Lin Kulik, and Kevin Carmichael, "The Keller Plan in Science Teaching," *Science*, 183 (February 1, 1974), 379-383.
8. Campbell McConnell and Charles Lamphear, "Teaching Principles of Economics without Lectures," *Journ. Econ. Educ.*, 1 (Fall 1969), 20-32.
9. Joseph M. Roop, "Contingency Management in the Teaching of Economics: Some Results from an Intermediate Microeconomics Course," *Intermountain Economic Review*, 4 (Spring 1973).
10. J. Gilmour Sherman, Editor, *Personalized System of Instruction: 41 Germinal Papers*. Menlo Park, Cal.: W. A. Benjamin, Inc., 1974.

Vanderbilt University

Economics and Business Administration 110
Elementary Economics
Fall 1974

SYLLABUS

This course is self-paced with almost no lectures or class discussions. You can work at your own speed, racing ahead, keeping on schedule, or (but please don't) lagging behind. It covers the same ground as Ec.-B.A. 100 and counts in lieu of 100 for distribution. It also serves in lieu of Ec.-B.A. 100 as prerequisite for Ec.-B.A. 101 and other courses given by the Department of Economics and Business Administration.

You will be given a series of reading assignments and will have a proctor to help you. When you think you have mastered the first assignment, you take a test on it. If you pass, you will then go on to the next assignment, and so on throughout the course. If the test shows you have not mastered the material, you study the assignment some more and take the test over again. There is no penalty for repeating a test. We don't *care* how often you try as long as you eventually succeed.

Grades will depend on how many points you earn by passing tests. You can earn up to 80 points during the semester. The final examination counts for 20. You will need 90 points for an A, 80 for a B, 70 for a C, and 60 for a D. By earning 80 points during the semester, you can be assured of a B (even if you turn in a blank blue-book for the final examination), and you will have a lock on an A.

We hope and expect that nearly everybody will get at least a B and that A's will be numerous. The catch is that you can earn points only by demonstrating mastery of the assignments. You can't get by with the vague familiarity usually associated with a C even if you're willing to settle for one. This is a demanding course. You will work hard for whatever grade you get. But if you do work hard, you will really learn.

EDUCATIONAL OBJECTIVES

The objectives of this course are:

1. to master the economic principles specified in the Study Guides;
2. to learn to *analyze* economic policy issues systematically, reaching intelligent conclusions of your own.

TEXTBOOKS

There are two alternative textbooks in the course. Half the class will use one, the other half the other. If you think this will be the only course in economics you will take, we recommend:

Milton H. Spencer, *Contemporary Economics*, 2nd edition.

This book is well adapted to learning on your own.

Students expecting to take more than one course in economics may prefer the textbook used in Ec.-B.A. 100 and 101:

Paul A. Samuelson, *Economics*, 9th edition (alternative to Spencer).

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The prerequisite for Ec. B.A. 101 is either this course or Ec.-B.A. 100. Samuelson's text is the all-time bestseller in elementary economics. It is especially good for a course where the instructor goes over the assignments in class.

Since half the proctors will be primed to help students using Spencer, the other half students using Samuelson, we may have to tell some students arbitrarily which textbook they will use. If you have bought one and need to switch to the other, go to the Bookstore and make the exchange.

CASEBOOK

You will also need to buy:

Rendigs Fels and Robert G. Uhler, Editors, *Casebook on Economic Problems and Policies: Practice in Thinking*.

The *Casebook* gives real-world problems based on newspaper and magazine articles to which you will apply the economic principles explained in the textbook. The glossary at the end of the *Casebook* provides a handy way to look up terms on the tests of Basic Concepts and constitutes a summary of the important economic principles in the course.

HOW TO EARN POINTS

The form on the next page is for you to keep track of your progress during the semester. It also—and this is the reason for calling attention to it now—gives a summary of how you can earn points. The course is divided into ten sections. The first seven sections are devoted to the principles of economics. The last three sections are on the application of economic principles to policy issues.

For each of the seven sections on the principles of economics, there will be a test on basic concepts worth 4 points and an analytic test of your understanding of the principles, also worth 4 points. For the last three sections there will be tests of your ability to apply the principles to real-world policy cases.

Tests on Basic Concepts. The seven tests on basic concepts are included in the Study Guides. That's right, you get the questions before you start studying. The catch? The criterion for passing is 100 percent. You not only can earn 28 points by passing the seven tests, but you have to in order to pass the course. The tests can be divided. You may answer half the questions one time and the other half another. Doing so will be easier but slower. **WE RECOMMEND THAT YOU TAKE HALF OF THE FIRST TEST (TEST I-A1) ON THE FIRST DAY OF CLASS, TUESDAY, SEPTEMBER 3, IN STEVENSON CENTER 5212H.** Class starts at 8:10 a.m.

Analytic Tests. Before you can take an analytic test, you must pass the related test on basic concepts. There is no point in testing whether you can do something with the concepts until you have proved you have learned them. Each of the Study Guides includes a sample of the kinds of questions that will be asked on the analytic tests. The actual questions will be different. But if you thoroughly understand how to answer the sample questions, you will probably be able to pass the test.

You can take the analytic tests in either oral or written form. The written tests will be given ONLY on the following dates:

I. Functions of Economic Systems	Tuesday, September 10
II. Economic Efficiency	Thursday, September 19
III. Supply and Demand	Tuesday, October 1

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Ec.-B.A. 110, Elementary Economics
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PROGRESS OF _____
(name of student)

Proctor _____

Textbook _____

SECTION NO. AND SUBJECT	TESTS ON BASIC CONCEPTS			ANALYTIC TESTS			
	Points Possible	Points Earned		Points Possible	Date of Written Test	Points Earned	
		Date	No.			Date	No.
I. Functions of Economic Systems	4			4	Tuesday Sept. 10		
II. Economic Efficiency	4			4	Thursday Sept. 19		
III. Supply and Demand	4			4	Tuesday Oct. 1		
IV. National Income Accounts	4			4	Tuesday Oct. 8		
V. Theory of Income and Employment	4			4	Thursday Oct. 17		

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VI. Money and Banking	4			4	Tuesday Oct. 29	
VII. Balance of International Payments	4			4	Tuesday Nov. 5	
SUBTOTALS	28			28		

SECTION NO. AND SUBJECT	MICRO			MACRO		
	Points Possible	Points Earned Date	Points Earned No.	Points Possible	Points Earned Date	Points Earned No.
VIII. POLICY ISSUES: ELEMENTARY	4			4		
IX. POLICY ISSUES: INTERMEDIATE	4			4		
X. POLICY ISSUES: ADVANCED	4			4		
SUBTOTALS	12			12		

Points		Grade
90-100	=	A
80-89	=	B
70-79	=	C
60-69	=	D

SUMMARY

Total Points Earned by

Sept.	____	Oct. 5	____	Nov. 2	____
"	____	" 12	____	" 9	____
"	____	" 19	____	" 16	____
"	____	" 26	____	" 23	____

Nov. 30 ____

Dec. 6 ____

Points Earned on Final Examination (out of possible 20) ____

GRAND TOTAL ____

GRADE ____

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IV.	National Income Accounts	Tuesday, October 8
V.	Theory of Income and Employment	Thursday, October 17
VI.	Money and Banking	Tuesday, October 29
VII.	Balance of International Payments	Tuesday, November 5

The criterion for passing is functionally correct answers to all questions. If you work ahead, fall behind, and/or get recycled (fall short of the mark on the first try), you can take an oral examination. Make arrangements with your proctor.

To pass the course you must pass all seven analytic tests (good for 28 points) as well as the seven tests on basic concepts. Doing so will earn 56 points. Even if you earn no other points at all, you will then be able to get a C in the course by scoring 70 percent (14 points out of a possible 20) on the final examination.

Tests on Policy Issues. You can earn up to 24 points by passing tests worth 4 points each on issues of government policy. Each of the first two tests (Section VIII) will be on a designated case in the Fels-Uhler *Casebook*. You can study the case in advance and discuss it with your proctor or other students. The study guide tells you what the question will be. For the next two tests (Section IX), you will have to be prepared on four cases. One will be chosen by lot for you to write on. The last two tests (Section X) will be on cases you have not seen before. By the time you get that far, we hope you will have developed enough skill at analyzing policy issues to be able to take a new one in stride.

Final Examination. The final examination is worth up to 20 points. A written final will be given at the regularly scheduled time specified in the examination schedule for the College of Arts and Science. Students who have earned 80 points may request an oral final to be given before the end of the semester.

NORMAL PROGRESS

If you want an A in the course, you should earn an average of at least 6 points per week during the semester; if a B, 5 points per week; if a C, 4 points per week. Students who have earned less than 4 points per week by midterm will be reported as deficient in compliance with the rules of the College of Arts and Science. A deficiency means that you have fallen behind, not that you have dug yourself into a hole. But by November 26, which is the last date for dropping with a grade of WP, you should drop the course unless you have earned at least 40 points. No grades of incomplete will be given, but if you sign up for Ec.-B.A. 110 again in the spring term to improve your grade, you will not be required to repeat tests you have already passed.

LIMITATION ON ATTEMPTS

You may attempt to earn points only on weekdays (excluding holidays), and you are permitted only one attempt per day. The last day for earning points (other than on the final examination) is Friday, December 6, 1974. No tests will be given after that date.

PROCTORS

Each student will be assigned to an undergraduate proctor, who will answer questions, administer tests, give provisional grades to tests, and generally be helpful. There may be as many as ten students assigned to each proctor. The proctors are free to make arrangements with their students for times of giving tests, holding office hours, etc., as are mutually convenient. A proctor who decides that a written test does not meet the standard set for passing will return it with an explanation. A

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proctor who believes the written test to be of passing quality will give it to the graduate assistant or the instructor for review and confirmation of the passing grade.

CLASS MEETINGS

The instructor, the graduate assistant, and some of the proctors will always be available during the regularly scheduled class meetings (8:10-9:25 a.m., Tuesdays and Thursdays). You can take tests or get help with assignments at these times but are under no obligation to come.* All the written analytic tests will start at 8:10 a.m. on the dates specified in Stevenson Center 5212H. Besides the regular meeting room (SC 5212H), two other rooms in Stevenson Center (5303 and 5319) will be used between 8:10 and 9:25 on Tuesdays and Thursdays for consultation with proctors and oral exams.

RECORDS

A file for each student will be kept in Old Central 206A. This file will be the official record. It will contain all written tests of passing quality, a written certification of each oral test passed, and a cumulative summary of points earned by the student. Proctors will be responsible for the accuracy of the records of the progress of their students. Each student should keep track of his own progress on the form provided on page 16 of this syllabus. Posted in the hall outside OC 206A will be a chart recording the progress of every student in the course. Please check it from time to time for accuracy. If it contains an error, the official record may be in error also—ask us to check. Also posted will be a summary of the progress of the entire class.

BLUEBOOKS

Please use bluebooks for all written tests, write in ink, and sign the honor pledge.

STUDY GUIDES

The envelope containing the material you are now reading includes, besides this syllabus, the Study Guide for Section I, Functions of Economic Systems. When you have passed the tests for Section I, you can get the Study Guide for Section II from your proctor, the graduate assistant, or the instructor. Similarly, you can get the Study Guide for Section III when you have passed the analytic test for Section II, and so on. There is a Study Guide for the Final Examination, which you may have any time after completing Section VII.

LECTURES AND CLASS DISCUSSION

There may be a few lectures given during the course, time permitting. Attendance will be limited to those students who have made sufficient progress in the course to benefit. The lectures will contribute nothing toward earning points, and no one need feel obliged to come. The lectures will be on subjects related to the course which interest the instructor. The tentative lecture schedule is:

Date	*Subject*	*Requirement for Attendance*
Thursday, Oct. 31	The Deductive Method in Economics	Pass Test VI-A
Tuesday, Nov. 19	Value Judgments in Economics	Pass Test VIII-A

*The instructor and perhaps one or two of the proctors will be in SC 5212H from 10:00 a.m. until 12 noon on Saturday, September 7, and, if demand warrants, on subsequent Saturdays also.

A class discussion of airport delays (see the Fels-Uhler *Casebook*, pp. 34-47) is scheduled for Thursday, November 7, 1974. Attendance will be limited to those who have passed the analytic test for Section III (Supply and Demand).

HONOR SYSTEM

All tests and papers will be under the Honor Code. Use of notes on tests is forbidden, as is giving aid to, or receiving help from, another person.

OFFICE HOURS

The instructor in this course is Rendigs Fels. He will normally keep office hours on Tuesdays and Thursdays between 9:35 and 11:30 a.m. in Old Central 206A (X-2641) besides being available between 8:10 and 9:25 in SC 5212H. He has another office in suite 809 of the Oxford House (offices of the American Economic Association, X-2595) and frequently can be found there in the late afternoon or (on Monday, Wednesday and Friday) in the early morning.

The name and office hours of the graduate assistant will be announced later.

DEVIATIONS FROM THE MAIN TRACK

The study guides and the progress report form specify a fixed order for doing the assignments. But this course is meant to be personalized. Adjustments can be made to fit the needs and interests of individual students. If you want to deviate from the main track, see the instructor.

FINANCES

Development of this course has been aided by a grant from the Joint Council on Economic Education, whose help is gratefully acknowledged. Secretarial expenses and reproduction costs for the Study Guides are being paid from the Joint Council's grant, royalties from the Fels-Uhler *Casebook* (all of which are being used for continuation of the project), and proceeds from the sale of the envelope containing the materials you are now reading.

REFERENCES TO THE CASEBOOK

References to pages and case numbers in the Fels-Uhler *Casebook* in the Study Guides are to the first (1974) edition, except as otherwise noted. Certain new cases assigned in the Study Guide to Section IX (Policy Issues: Intermediate) are scheduled for inclusion in the second (1975) edition. One of them, Case 1974-1, is reproduced below in Appendix A together with sample answers. For the fall semester of 1974, these cases were reproduced locally and included in the Study Guide.

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Economics and Business Administration 110
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Study Guide

Section I. Functions of Economic Systems

1. *Educational Objectives.* The objectives of this section are:
   (1) To memorize all the basic concepts about economic systems in general and the American economic system in particular as evidenced by a score of 100 percent on Tests I-A1 and I-A2, copies of which follow:
   (2) To learn to use the basic concepts relating to economic systems to answer correctly new questions like those in Sample Test I-B (see below) as evidenced by (a) functionally correct answers to all questions on a written test scheduled for Tuesday, September 10, 1974, or (b) successfully passing an oral test given by a proctor, the graduate assistant or the instructor.
2. *Reading Assignments.* The student should study BOTH of the following:
   (1) Fels-Uhler *Casebook*
      p. 161 (economics)
      p. 163 (functions of any economic system)
      p. 164 (goods mix; income distribution; mixed economy)
      p. 166 (prices, role of, and price system)
      p. 167 (rationing)
      p. 168 (scarcity)
      pp. 10-11 and 15-16
   (2) One of the following:
      (a) Samuelson, Chapters 1-3 (particularly pp. 17-30 and 41-49)
      (b) Spencer, Chapters 1-3 (particularly Chapters 2 and 3)
      (c) Comparable reading in any other standard textbook.

3. *Special Instructions.* We recommend taking Test I-A1 on Tuesday, September 3. Otherwise, you may, if you wish, take Tests I-A1 and I-A2 at the same time. You must pass Tests I-A1 and I-A2 before taking Test I-B, and you must pass Test I-B before going on to Section II. When you have passed Test I-B, you can get a copy of the Study Guide for Section II from your proctor.
4. *Sample Answers for Test I-A1.* Tests of basic concepts call for short answers. To help you get started, we're providing sample answers to the four questions on Test I-A1. You can learn them in twenty minutes. When you have, take the test and earn two points. If you need help, see your proctor.

   Question 1. What is scarcity?

   Answer: scarcity means that there are not enough inputs (also called factors of production—land, labor and capital) to produce all the goods and services that people want.

   Question 2. What is economics?

   Answer: study of the social organization of economizing activity, where econo-

mizing refers to the use of scarce means to achieve given ends.

Question 3. What is the relation between scarcity and economics?

Answer: Scarcity is what economics is all about. If there were no scarcity, there would be no economics.

Question 4. What are the three *principal* functions any economic system must perform?

Answer: All societies must decide (1) WHAT to produce—the quantities of output of different goods and services, (2) HOW to produce—the methods of production, and (3) FOR WHOM to produce—including the distribution of income.

5. *Sample Answer for Test I-A2.* Test I-A2 is a continuation of I-A1, and the questions are numbered 5 through 8 instead of starting over again with number 1. The questions are a little harder, and we're asking you to dig most of them out of the assignments. But to help you get the idea, we're taking a student answer to one of them that was not complete and adding to it a sentence to make it acceptable. Question 5 asks, "What is the price system?"

   The student wrote: "The price system is a mechanism by which scarce inputs and outputs are allocated, or rationed, to the various segments of society. These prices and their allocative effects, can either be set by a central bureaucracy or determined competitively in a free market (or a combination of both can occur). Prices are ECONOMIC SIGNALS which direct economic activity." The answer is incomplete because it does not say anything about how the economic signals work. It needs to be completed by adding a sentence, something like this: "A rise in price is a signal to produce more and/or consume less, and vice versa."

6. *Sample Answer for Test I-B.* There are fewer questions in the analytic tests than in the tests of basic concepts, and the answers generally need to be longer. Question 4 on Sample Test I-B reads, "Explain how the price system determines for whom gasoline is produced." The point to this question—and the similar one that will be on the written test scheduled for Tuesday, September 10—is to make sure you understand how to translate the general idea of the price system into terms of any specific commodity or group of people. Only if you can do that do you really understand the idea. An appropriate answer to the sample question might read like this:

   > People's incomes depend on the prices of the factors of production (land, labor, capital) which they own. The way they spend these incomes depends on the prices of the various goods and services, including gasoline, and their preferences. If gasoline becomes scarcer, as it did following the Arab embargo on oil in 1973, the price goes up, seeing to it that the gasoline goes to those willing to pay the most.

   The question on the real test will be broadly similar to the one on the sample test. You can best prepare for it by working out the way you would answer questions about "what to produce" and "how to produce" as well as "for whom to produce" involving specific kinds of people or commodities, for instance, how the price system determines incomes of dentists, the amount of output of doctors' services, and the method of producing rice in the United States compared to India.

7. *"For Whom to Produce"—Further Explanation.* How to produce and what to produce—two of the central problems of any economic system—can be thought of as the problem of making the national pie as big as possible and producing the right kind of pie. The third central problem is how to divide the pie among all those wanting some. In the United States, this third problem has two aspects. The

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main one is income distribution: everybody gets some generalized purchasing power—money—which they use to buy what they want most. Not only is the national pie divided according to the money incomes people get, but also their spending helps to determine what kind of pie gets produced. Hence, textbooks use the catchphrase "for whom to produce" to sum up the third central function. But like all catchphrases, it is a little inaccurate and misleading.

The other aspect of the third central function is not usually mentioned by textbooks. It is rationing—dividing the consumer goods that have already been produced and are temporarily in fixed supply. Rationing, like the distribution of money income, fits the catchphrase "for whom to produce" a bit awkwardly.

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Test I-A. Basic Concepts Relating to Functions of Economic Systems

Note: This test is in two parts (I-A1 and I-A2), which may be taken separately or together at any regularly scheduled class period or at any other time convenient for your proctor. It may be repeated as often as necessary to pass. You may NOT use notes. Please use a bluebook, write in ink—legibly—and sign the pledge.

Minimum score for passing: 100 percent.

Points awarded for passing: 4 (2 for I-A1, and 2 for I-A2).

TEST I-A1

1. What is scarcity?
2. What is economics?
3. What is the relation between economics and scarcity?
4. What are the three *principal* functions any economic system must perform?

TEST I-A2

(Basic Concepts Relating to Functions of Economic Systems, continued)

5. What is the price system?
6. What is the relation between the price system and the functions any economic system must perform?
7. There are two meanings of the word "rationing." What are they?
8. Textbooks describe the American economic system as a mixed economy. What does this mean?

(Passing this test makes you eligible to take Test I-B, the Analytic Test on Functions of Economic Systems.)

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Sample Test 1-B. Analytic Test on Functions of Economic Systems

Note: These questions are the *kind* of questions that will be on the written test to be given on Tuesday, September 10, 1974. The actual questions will be different. You may take the written test *only if* you have previously passed Test 1-A, Basic Concepts Relating to Functions of Economic Systems. A student wishing to take Test 1-B before or after September 10 should make arrangements with his proctor for an oral test.

Criterion for passing: excellence.

Points awarded for passing: 4.

1. Textbooks sometimes say that any economic system must perform three principal functions, but sometimes they add one or more of the following: growth (division between present and future), rationing, and employment (determining the number of jobs). Explain why these latter three are really part of the first three.
2. The Tennessee legislature in 1974 enacted a law requiring instruction in high schools in "the essentials of free enterprise." What are the essentials of free enterprise that the instruction should cover?
3. (This question is taken verbatim from Bach, *Economics*, 8th ed., page 35.) "Man lives by cooperating with his fellow man. In all economics there is no more fundamental truth than this." "The core of the competitive, free-market system is the driving urge of most men to get ahead in the world, to rise above their fellow men." Are these two statements about the American economic system consistent or contradictory? If they are consistent, how do you reconcile their apparent contradiction?
4. Explain how the price system determines for whom gasoline is produced.

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Study Guide

Section II. Economic Efficiency

1. *Educational Objectives.* In this section, we'd like you to:
   (1) Learn all the basic concepts relating to economic efficiency as evidenced by a score of 100 percent on Test II-A, a copy of which follows;
   (2) Learn to use the basic concepts concerned with economic efficiency to answer correctly questions you have not seen before which are similar to those in Sample Test II-B (see below) as evidenced by (a) functionally correct answers to all questions on a written test scheduled for Thursday, September 19, 1974, or (b) successfully passing an oral test given by a proctor, the graduate assistant or the instructor.
2. *Reading Assignments.* Before taking either of the tests, the student should study both the Fels-Uhler *Casebook*, pages 3-17, particularly pp. 3-10, and the glossary:
   p. 159 (allocative efficiency)
   p. 160 (consumer sovereignty)
   p. 161 (economic efficiency)
   p. 162 (external benefit, external cost, externalities)
   p. 163 (full employment)
   p. 165 (opportunity cost)
   p. 166 (private benefit, private cost)
   pp. 166-67 (production-possibilities curve)
   p. 168 (social benefit, social cost)
   p. 169 (technical efficiency)

   Optional: Samuelson, pp. 472-73 and 474-76 and Chapter 8; and/or Spencer, pp. 478-80, 100-105 (omit diagrams on page 103), and 328-33; or comparable reading in another textbook.

   In pages 3-17 of the *Casebook*, suggestions are made at various points that you turn to specified cases before reading on. Reading the cases is optional, but you will probably find them helpful, especially if you try to answer the questions you will find at the end of each case.
3. *Special Instructions.* You must have passed Tests I-A and I-B before taking Test II-A, you must pass Test II-A before trying Test II-B, and you must pass Test II-B before going on to the later sections of the course.
4. *Hard Questions on Test of Basic Concepts.* Questions 2 and 10 of Test II-A (Basic Concepts Relating to Economic Efficiency) are harder than they look. Question 2 reads:
   2. What is the difference between allocative efficiency and income distribution? Answer in terms of whether or not some people can be made better off without making others worse off.

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Allocative efficiency means the best use of productive resources to satisfy each person's wants within the limits of that person's income, whereas income distribution refers to the size of that person's income compared to the incomes of other people. Now, income and output are different aspects of the same thing, a point that will come up again in Section IV on the national accounts. Accordingly, the definition of income distribution just given is equivalent to the one in the Glossary of the Fels-Uhler *Casebook*: "the way in which the total amount of output is divided among different people."

When we talk about allocative efficiency, we think of people's incomes as giving them control over a certain amount of productive resources—labor, capital, and natural resources. Through their buying, they can direct those resources to be used to produce the various goods and services they want—so much to toothpaste, so much to stereo tapes, so much to milk, so much to cheese, and so on. The problem of allocative efficiency is to see to it that those resources are used to produce the combination of goods and services that they like best. If some switch in the use of those resources to give someone a little more cheese and a little less milk makes that person better off (in the person's own mind), then the switch increases allocative efficiency in the sense that *that person is made better off without making anybody else worse off.*

A pure change in income distribution, in contrast, means making somebody better off at the expense of making somebody else worse off. If the government increases the tax on my income and gives the money to people on welfare, they are made better off by making me worse off.

A tricky question arises. If an increase in efficiency makes one person better off and leaves everybody else the same, has income distribution changed? Definitions are arbitrary, and you can do as you like with this one. Most people would probably want to say that income distribution has changed. They would define an unchanged distribution to mean that the benefit from any gain in efficiency was distributed among all the people in proportion to their previous incomes, in other words, that the relative shares remained the same.

Another tricky point: the definition of increased efficiency does not *require* that nobody become worse off, only that somebody *could* be made better off without anybody else being made worse off. In practice, a gain in efficiency is usually accompanied by a change in income distribution that hurts some while benefiting others. Efficiency might be increased by producing less okra for me and more milk. I benefit because I like milk better than okra. In practice such a switch is likely to redistribute income from okra producers to milk producers. But we still say there was a gain in efficiency.

In answering question 2, you will of course want to be brief. You will need to boil down the five paragraphs above to a sentence or two.

Now for question 10, which reads: "Allocative efficiency requires that prices represent . . . the opportunity cost of producing various goods." Explain in terms of a numerical example.

The quotation comes from the Fels-Uhler *Casebook* (page 7). The rest of the paragraph from which it is taken gives a short explanation, which you can memorize for purposes of answering Test II-A. It's better to memorize and regurgitate a good answer, even if you don't fully understand it, than to write an inadequate answer of your own. Since the idea is difficult, we'll settle for memorization at this point. But you'd better try to understand it, and we'll try here to give a fuller explanation than the one in the *Casebook*.

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Let us suppose Farmer MacDonald has productive resources that can grow 100 apples or 100 oranges or any mixture of apples and oranges totaling 100 per year. In other words, the opportunity cost of producing one apple is one orange or vice versa. Let us further assume that I (the consumer) have $25 a year to spend on Farmer MacDonald's fruit. I like both apples and oranges. With my $25, I can't get enough of them. Let us suppose that, if the prices are the same, I'll buy three times as many oranges as apples. If the price of one apple is 25¢ and the price of one orange is also 25¢, reflecting the opportunity costs of producing them, I would buy 75 oranges and 25 apples, and that is what Farmer MacDonald, responding to my purchases, would produce. This situation is allocatively efficient. Any switch of production from oranges to apples or from apples to oranges would make me worse off. No switch could make me better off.

Suppose, though, that Farmer MacDonald for some reason (never mind just why for the moment) charges more for oranges than for apples, so that the prices do not reflect opportunity costs. Let us assume that he charges 30¢ for oranges and 20¢ for apples. What will I do? Obviously, I'll buy more apples and less oranges. Let's say (we're rigging the numbers to make them come out right) that at these prices I'll buy 50 oranges (instead of 75) and 50 apples (instead of 25). I'll still be spending $25.00 a year ($15 for 50 oranges @ 30¢, $10 for 50 apples @ 20¢). Farmer MacDonald will have to produce 50 oranges and 50 apples. But the situation is allocatively inefficient. I would be made better off without Farmer MacDonald being made any worse off if he produced more oranges and less apples.

Why would Farmer MacDonald charge 30¢ for oranges and 20¢ for apples when the opportunity cost of one apple was one orange? He might do it out of ignorance (lots of people don't know exactly what their costs are), but a more common reason is taxation. If the government has a ten-cent tax on each orange produced but no tax on apples, he quite sensibly will adjust prices accordingly. There are other possible reasons (monopoly in one market but not the other for instance), but this is enough for now.

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Elementary Economics

Test II-A. Basic Concepts Relating to Economic Efficiency

Note: This test may be taken only after passing Test I-B, Analytic Test on Functions of Economic Systems. It may be divided: you may answer questions 1-5 (worth 2 points) on one occasion and questions 6-10 (2 points) later. The test may be taken at any regularly scheduled class period or at any other time convenient for your proctor. It may be repeated as often as necessary to pass. Please use a

bluebook, write in ink, and sign the pledge. You may NOT use notes.

Minimum score for passing: 100 percent.

Points awarded for passing: 4.

1. Define and briefly explain allocative efficiency.
2. What is the difference between a change in allocative efficiency and a change in income distribution? Answer in terms of whether or not some people can be made better off without making others worse off.
3. What is the relation between allocative efficiency and economic efficiency?
4. What is meant by consumer sovereignty?
5. What is the relation between consumer sovereignty and allocative efficiency in the American economy?

* * *

6. What are externalities?
7. What precisely is the difference between social cost and private cost? How is the difference between social cost and private cost related to externalities?
8. What is the difference between private benefit and social benefit? How is the difference between private benefit and social benefit related to externalities?
9. Define opportunity cost.
10. "Allocative efficiency requires that prices represent . . . the opportunity cost of producing various goods." Explain in terms of a numerical example.

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Sample Test II-B. Analytic Test on Economic Efficiency

Note: These questions are the *kind* of questions that will be asked on the written test to be given on Thursday, September 19, 1974. The actual questions will be different. You may take the written test *only if* you have previously passed Test II-A, Basic Concepts Relating to Economic Efficiency. Please use a bluebook, write in ink, and sign the pledge.

A student wishing to take Test II-B before or after September 19 should make arrangements with his proctor for an oral test.

Minimum for passing: functionally correct answers to all questions.

Points awarded for passing: 4.

1. Explain how the following concepts are related: (a) allocative efficiency, (b) consumer sovereignty, and (c) the price system.

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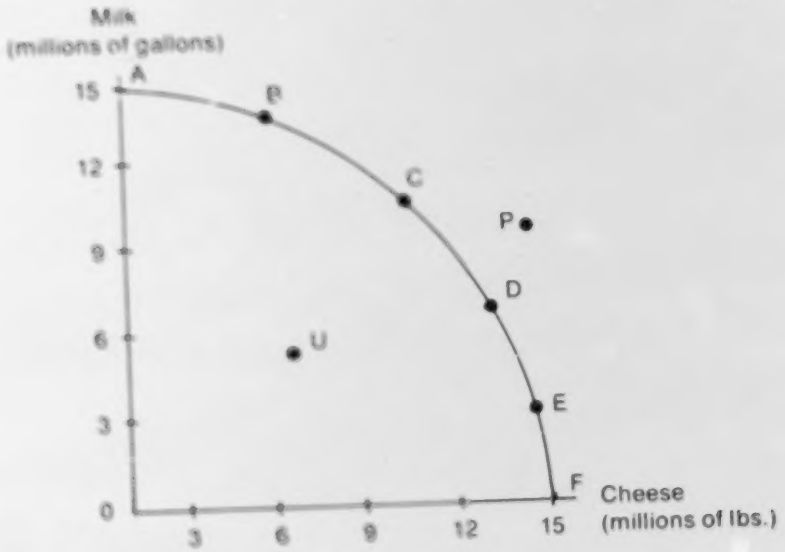
2. In judging the allocative efficiency of a communist country like Russia, is consumer sovereignty relevant? Why or why not?
3. Make believe there is an economy that produces only two commodities. For one of the commodities, cigarettes, social costs exceed private costs. For the other, flowers, social benefits exceed private benefits. To improve allocative efficiency, should the government tax both, subsidize both, tax cigarettes and subsidize flowers, or tax flowers and subsidize cigarettes? Why?
4. Evaluate the following statement: "A government subsidy will not be allocatively efficient because it will result in an unfair distribution of income."
5. Reproduced below is a chart of the "production possibility frontier" like the ones in Samuelson (*Economics*, 9th edition, p. 22), and Spencer (*Contemporary Economics*, 2nd edition, p. 27). Each point on the frontier (such as A, B, C, D, E, F) represents the maximum production of milk a country can produce given its output of cheese and vice versa. Explain why (a) a point inside the frontier like U implies technical inefficiency, underemployment, or both; (b) why the country will never be on a point outside the frontier like P; and (c) why being on the frontier is not enough for allocative efficiency.



Vanderbilt University

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Elementary Economics

Study Guide

Section III. Supply and Demand

1. *Educational Objectives*. The objectives of this section are:
   (1) to memorize all the concepts and principles used in supply and demand analysis as evidenced by a score of 100 percent on Test III-A, a copy of which follows;
   (2) to learn to use supply and demand analysis to solve abstract problems like those in Sample Test III-B (see below) as evidenced by (a) functionally correct answers to all questions on a written test scheduled for 8:10 a.m. on Tuesday, October 1, 1974, or (b) successfully passing an oral test given by a proctor, the graduate assistant or the instructor.
2. *Reading Assignments*. Before taking any of the tests, the student should study ONE of the following:
   (a) Spencer, *Contemporary Economics*, 2nd edition, Chapters 4 and 21.
   (b) Samuelson, *Economics*, 9th edition, Chapters 4 and 20 (Chapter 21 optional).
   (c) Comparable assignments in any other standard textbook.

   Attention is called to the glossary in the Fels-Uhler *Casebook*:
   p. 160 (competition, pure or perfect; demand; demand curve)
   p. 161 (demand, law of; demand schedule; disequilibrium; elasticity)
   p. 162 (equilibrium, equilibrium of supply and demand)
   pp. 165-166 ("other things remaining the same")
   p. 168 (shortage; supply and demand, law of; supply curve; supply schedule)
   p. 169 (surplus)
3. *Special Instructions*. You must pass Test III-A before going on to Test III-B, and you must pass III-B before going on to later sections of the course. Section IV normally comes next, but students working ahead may earn points from Subsection VIII-A after passing Test III-B.
4. *Error in Spencer*. There is an error in Spencer, *Contemporary Economics*, page 348. In Exhibit 7 (a), "Specific subsidy" and "Specific tax" should be interchanged.

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Test III-A. Basic Concepts of Supply and Demand

Note: This test may be taken only after passing Text II-B, Analytic Test on Economic Efficiency. It may be divided: you can answer questions 1-9 one time and 10-17 another. It may be taken at any regularly scheduled class period or at any other time convenient for your proctor. It may be repeated as often as necessary to pass. Please use a bluebook, write in ink *legibly*, and sign the pledge.

Minimum score for passing: 100 percent.

Points awarded for passing: 4.

1. Define perfect (or pure) competition.
2. Define supply schedule.
3. Define demand schedule.
4. Define demand curve.
5. Define supply curve.
6. Name and state a law governing the demand curve or demand schedule. (*Not* the law of supply and demand.)
7. In a supply schedule or curve, what is the normal relation between quantity supplied and price?
8. What does equilibrium mean in supply and demand analysis?
9. State the law of supply and demand.

* * *

10. Draw a diagram with a supply curve and a demand curve, labeling them S and D respectively. Label the axes appropriately. Use E to indicate equilibrium.
11. Explain why market price will rise if it is below equilibrium (other things remaining the same).
12. Explain why market price will fall if it is above equilibrium (other things remaining the same).
13. What is the difference between a rise in quantity demanded and a rise in the demand schedule or curve?
14. What is the difference between a fall in quantity supplied and a fall in the supply schedule or curve?
15. What is the difference between an elastic demand schedule or curve and an inelastic one?
16. What is a shortage?
17. What is a surplus?

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Sample Test III-B. Analytic Test on Supply and Demand

Note: These questions are the *kind* of questions that will be asked on the written test to be given on October 1, 1974. The actual questions will be different. You may take the written test *only* if you have previously passed Test III-A, Basic Concepts on Supply and Demand. Please use a bluebook, write in ink, and sign the pledge.

Students wishing to take Test III-B before or after October 1, should make arrangements with their proctor for an oral test.

Minimum for passing: functionally correct answers to all questions.

Points awarded for passing: 4.

1. (a) Construct an original numerical example of supply and demand for a commodity. Show five alternative prices. The supply schedule should represent the normal relation between quantity supplied and price. There should be two demand curves, one elastic and one inelastic. The equilibrium price should be the same for the two demand curves. State what the equilibrium price and quantity are.
   (b) For the same five prices as in (a), construct a new supply schedule representing an increase in supply. Specify the new equilibrium price and quantity for each of the demand curves. Are the changes in the equilibrium price and quantity greater for the elastic than the inelastic demand curve?
2. Show diagrammatically that a simultaneous increase in both supply and demand (in the sense of schedules or curves) raises the equilibrium quantity but may either increase or reduce the equilibrium price.
3. Explain why a government law imposing a ceiling or maximum price may cause a shortage and a law setting a minimum price may cause a surplus.
4. "The effect of a tax on a commodity might seem at first sight to be an advance in price to the consumer. But an advance in price will diminish the demand. And a reduced demand will send the price down again. Therefore, it is not certain after all, that the tax will really raise the price." (Samuelson, 9th ed., pp. 388-89)
   (a) The word "demand" appears twice in the quotation. Is it used in the same sense in both places? Explain.
   (b) Use a diagram to show that a tax on a commodity really will raise the price.
   (c) Rewrite the quotation to make it correct.

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Study Guide

Section IV. National Income Accounts

1. *Educational Objectives.* Your goals in this section are:
   (1) To learn to define and explain all the basic concepts of national income accounts as evidenced by a score of 100 percent on Test IV-A, a copy of which follows;
   (2) To learn to use the basic concepts of national income accounts to answer new questions similar to those in Sample Test IV-B (see below) as evidenced by (a) functionally correct answers to all questions on a written test scheduled for 8:10 a.m. on Tuesday, October 8, 1974, or (b) successfully passing an oral test given by a proctor, the graduate assistant or the instructor.
2. *Reading Assignments.* Before taking either of the tests, the student should study ONE of the following:
   (a) Spencer, Chapters 8 (required) and 9 (optional)
   (b) Samuelson, Chapter 10
   (c) Comparable reading in any other standard textbook

   In addition attention is called to the glossary in the Fels-Uhler *Casebook:*
   p. 160 (constant dollars, consumer price index, current dollars)
   p. 161 (disposable personal income)
   p. 163 (GNP)
   p. 165 (net national product)
   p. 166 (price index)
   p. 167 (real cost, real income)
   p. 169 (value added)
3. *Special Instructions.* You must pass Test III-B before taking Test IV-A, you must pass Test IV-A before taking Test IV-B, and you must pass Test IV-B before going on to Section V. When you have passed Test IV-B, you can get a copy of the Study Guide for Section V from your proctor, the graduate assistant, or the instructor.
4. *Tricky Terms.* "Disposable income," the term used by Samuelson and Spencer, is short for "disposable personal income," the official term used by the U.S. Department of Commerce and in the glossary to the Fels-Uhler *Casebook*. The official term is confusing because it is similar to "personal income," which is actually something different. Personal income means the total of people's incomes *before* income taxes are paid. Disposable income means people's incomes *after* income taxes have been deducted.
5. *Real GNP vs. Happiness.* Is more better? If people on the average have a higher standard of living, are they happier? Is there any connection at all between statistical estimates of real gross national product and human welfare?

   Such questions must be dealt with in two parts. One has to do with deficiencies in statistical estimates of real income and output. The other has to do with the

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connection, if any, between real income properly measured and human happiness.

Samuelson's discussion on pages 195-197 of GNP and net economic welfare (NEW) actually deals with only the first part. He presents estimates by Nordhaus and Tobin showing that when GNP is adjusted for leisure, hidden pollution and ecological costs, and various other deficiencies, the resulting statistics for NEW per capita show growth since 1929 similar to but less than that of GNP.

But that doesn't necessarily mean that people are happier now than in 1929. It means only that people are consuming more goods and services. There is evidence that the higher your income compared to the incomes of other people in the same country, the happier you are likely to be. But there is also evidence that people in a rich country are no happier on the average than people in a poor country. The evidence, to be sure, is not conclusive, but the finding is plausible. One critic of the more-is-better concept puts it this way: "If I am used to cotton shirts, I don't mind not having silk ones. If I then get used to having silk ones, I don't want to go back to cotton shirts, but I'm no happier than before."

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Test IV-A. Basic Concepts of the National Income Accounts

Note: This test may be taken only after passing Test III-B, Analytic Test on Supply and Demand. It may be divided: You can answer questions 1-5 one time and questions 6-10 another. It may be taken at any regularly scheduled class period or at any other time convenient to your proctor. It may be repeated as often as necessary to pass. Please use a bluebook, write in ink, and sign the pledge. You may NOT use notes.

Minimum score for passing: 100 percent.

Points awarded for passing: 4.

1. Define gross national product.
2. Define value added.
3. Explain the relationship between gross national product and value added.
4. Define disposable income.
5. Explain why national income and national product are two different ways of looking at the same thing.

* * *

6. What is (a) a price index in general, (b) the consumer price index, and (c) the GNP deflator?
7. What is the difference between GNP in current dollars and GNP in constant

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dollars?

8. What is the difference, if any, between GNP in constant dollars and real output?
9. Net national product is defined as gross national product minus capital consumption allowances (depreciation). What does this mean?
10. What is the relation between real GNP and human welfare? Explain. Be brief and to the point.

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Sample Test IV-B. Analytic Test on the National Income Accounts

Note: These questions are the *kind* of questions that will be asked on the written test to be given on Tuesday, October 8, 1974. The actual questions will be different. You may take the written test *only* if you have previously passed Test IV-A, Basic Concepts of the National Income Accounts. Please use a bluebook, write in ink, and sign the pledge.

Students wishing to take Test IV-B before or after October 8 should make arrangements with their proctor, the graduate assistant, or the instructor for an oral test.

Minimum for passing: functionally correct answers to all questions.

Points awarded for passing: 4.

1. Suppose you were given data for:
   personal consumption expenditures
   personal income
   gross private domestic investment
   capital consumption allowances (depreciation)
   government purchases of goods and services
   exports of goods and services
   imports of goods and services
   (a) Could you compute gross national product? If so, how? If not, why not?
   (b) Could you compute net national product? If so, how? If not, why not?
   (c) Could you compute disposable income? If so, how? If not, why not?
2. From the following data, calculate the rise in prices between 1970 and 1971 as a percentage:

	GNP (current $)	GNP (constant $)
1970	$976 billion	$722 billion
1971	1,050 billion	742 billion

3. What is the relation between allocative efficiency and GNP in constant dollars?
4. It is sometimes argued that the United States should not want real GNP to grow because the production of "bads" exceeds the production of goods. That is, increased output means more smoke and other kinds of pollution. Explain why this objection to economic growth may be valid for statistics for GNP as they are now estimated but not for real output if it were measured correctly.

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Study Guide

Section V. Theory of Income and Employment

1. *Educational Objectives.* The goals of this section are:
   (1) To memorize all the basic concepts of the theory of income and employment as evidenced by a score of 100 percent on Test V-A, a copy of which follows;
   (2) To learn to use the theory of income and employment to answer new questions similar to those in Sample Test V-B (see below) as evidenced by (a) functionally correct answers to all questions on a written test scheduled for 8:10 a.m. on Thursday, October 17, 1974, or (b) successfully passing an oral test given by a proctor, the graduate assistant or the instructor.
2. ***Reading Assignments.*** Before taking either of the tests, the student should study one of the following:
   (a) Spencer, Chapters 10-11 (Chapter 12, optional)
   (b) Samuelson, Chapters 11-12
   (c) Comparable reading in any other standard textbook

   Attention is called to the glossary in the Fels-Uhler *Casebook:*
   p. 159 (aggregate demand)
   p. 160 (consumption function)
   p. 162 (equilibrium of expenditure and output)
   p. 164 (inflation, investment, Keynes's law, marginal propensity to consume)
   p. 165 (multiplier)
3. ***Special Instructions.*** This is one of the most demanding sections of the course and will require a special effort. You must pass Text IV-B before taking Test V-A, you must pass Test V-A before trying Test V-B, and you must pass Test V-B before going on to later sections in the course. After passing Test V-B, you can get the Study Guide for Section VI from your proctor.

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Test V-A. Basic Concepts of the Theory of Income and Employment

Note: This test may be taken only after passing Test IV-B, Analytic Test on the National Income Accounts. It may be divided: you may answer questions 1-6 one time and 7-13 another. The test may be taken at any regularly scheduled class period or at any other time convenient to your proctor. It may be repeated as often as necessary to pass. Please use a bluebook, write in ink, and sign the pledge. You may NOT use notes.

Minimum score for passing: 100 percent.

Points awarded for passing: 4.

1. Carefully distinguish the meaning of "investment" as used in the theory of income and employment from its meaning in everyday speech.
2. What is the consumption function?
3. What is the marginal propensity to consume?
4. What is the "multiplier"?
5. What is the relation (a) between the consumption function and the marginal propensity to consume and (b) between the marginal propensity to consume and the multiplier?
6. What is meant by aggregate demand? How does it differ from all the spending that goes on in a country?

* * *

7. Correctly draw a diagram showing the consumption function.
8. Complete the diagram you drew for question 7 to show the other components of GNP and the equilibrium of national income or product.
9. Explain "equilibrium" as illustrated in the diagram.
10. Suppose national product or income was below equilibrium. What would happen? Why?
11. Suppose national product or income was above equilibrium. What would happen? Why?
12. Suppose that national product or income was initially in equilibrium at less than full employment. The government then increases its purchases of military goods and services. Analyze the consequences both verbally and with a diagram.
13. Suppose the national product and income was initially in equilibrium. The government then increases personal income tax rates. Analyze the consequences both verbally and with a diagram.

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Sample Test V-B. Analytic Test of the Theory of Income and Employment

Note: These questions are the *kind* of questions that will be asked on the written test to be given on Thursday, October 17, 1974, at 8:10 a.m. The actual questions will be different. You may take the written test *only* if you have previously passed Test V-A, Basic Concepts of the Theory of Income and Employment. Please use a bluebook, write in ink legibly, and sign the pledge.

A student wishing to take Test V-B before or after October 17 should make arrangements with his proctor for an oral test.

Minimum for passing: functionally correct answers to all questions.

Points awarded for passing: 4.

Addition to explanation in textbooks: The textbooks by Samuelson and Spencer both make the assumption that national product (GNP or NNP) and disposable income (DI) are equal. See Samuelson, page 225, Table 12-1, column (1); Spencer, page 182, Exhibit 1, column (1). They make this assumption for the sake of simplicity. But in fact, GNP is much larger than DI (see Samuelson, page 200; Spencer, inside front cover and page 137, Exhibit 9; or the data for 1971 below).

This means that there are two kinds of marginal propensities to consume (MPC). The marginal propensity to consume is the fraction of an addition to income that gets spent on consumption (MPC = $\Delta C/\Delta Y$ where C = consumption, Y = income, and Δ means change). One kind of MPC is the marginal propensity to consume out of disposable income. The other is the marginal propensity to consume out of national product.

The marginal propensity to consume out of GNP or NNP is lower than out of disposable income. One reason is the personal income tax. Suppose that national product went up $1.5 billion. Even if personal income went up $1.5 billion too (which it wouldn't), disposable income would go up quite a bit less because people would have to pay higher income taxes. For various reasons, personal income is lower than national product, one reason being that part of corporate profits get plowed back into the business instead of paid out as dividends. Consequently, a rise in GNP of $1.5 billion might mean a rise in disposable income of only $1.0 billion. If the rise in disposable income generated a rise of $0.9 billion in consumption, then the MPC out of national product would be only 3/5 (= 0.9/1.5) even though the MPC out of disposable income was 9/10.

Samuelson's explanation of the theory of income and employment (Chapter 12) runs in terms of *gross* national product (GNP), whereas Spencer's (Chapter 11) is in terms of *net* national product (NNP). Either way is equally good. The difference between GNP and NNP is capital consumption allowances (depreciation), which doesn't vary very much. NNP is a trifle better on theoretical grounds, GNP a trifle better on statistical grounds. In the questions below, we use GNP.

The size of the multiplier depends on the marginal propensity to consume out of national product. In the numerical example used two paragraphs back, the multiplier

is 2½. This may be calculated from the formula: multiplier = 1/(1−MPC) = 1/(1−0.6) = 2.5. Statistical calculations for the size of the multiplier in the United States yield estimates in the range of 2 to 3, implying that the marginal propensity to consume out of national product is between ½ and 2/3. (The multiplier in Spencer's numerical example is higher than this; the one in Samuelson is at the upper end of the range.)

Sample Questions

Questions 1, 2, and 3 are based on the following data for 1971 (billions of dollars per year):

Table 1

Personal consumption expenditures	665	
Gross private domestic investment	152	
Net exports of goods and services	1	
Government purchases of goods and services	233	
Gross national product (GNP)		1,051
Disposable income (DI)		744
Personal income		861
Marginal propensity to consume (out of GNP)		0.5
Marginal propensity to consume (out of DI)		0.9

1. Suppose that in the situation described by Table 1 the government increases its purchases of goods and services by $10 billion per year. If investment and net exports remain the same, how great are the increases in (a) consumption and (b) GNP? Explain.
2. Suppose that in the situation described by Table 1 government purchases remain the same but the government raises personal income tax rates $10 billion. This means that if personal income remained at $861 billion, disposable income would be reduced from $744 to $734.
   (a) Explain why personal income would not remain at $861 billion.
   (b) What would happen to consumption and GNP, other things (namely, investment, net exports, and government purchases) remaining the same? Rise? Fall? Remain the same? Explain.
3. Now assume that the government makes both the changes described in questions 1 and 2—that is, it simultaneously increases purchases of goods and services $10 billion per year and raises personal income tax rates $10 billion.
   (a) Explain why the two changes do not exactly offset each other. In what direction do consumption and GNP change, other things remaining the same?
   (b) Suppose that the government's budget was in balance initially (expenditures exactly equal to tax receipts). Is the net effect a deficit (excess of expenditures over tax receipts) or a surplus (excess of receipts over expenditures)?

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Study Guide

Section VI. Money and Banking

1. *Educational Objectives.* The goals of this section are:
   (1) To memorize all the basic principles and concepts of money and banking as evidenced by a score of 100 percent on Test VI-A, a copy of which follows.
   (2) To learn to use the basic principles of money and banking to answer new questions similar to those in Sample Test VI-B (see below) as evidenced by (a) functionally correct answers to all questions on a written test scheduled for Tuesday, October 29, 1974, or (b) successfully passing an oral test given by a proctor, the graduate assistant or the instructor.
2. *Reading Assignments.* Before taking any of the tests, the student should study one of the following:
   (a) Spencer, Chapters 13-16 (Chapter 17 optional)
   (b) Samuelson, Chapters 15-17 (Chapters 18 and 19 optional)
   (c) comparable reading in any other standard textbook

   Attention is called to the glossary in the Fels-Uhler *Casebook*:
   p. 159 (bank deposits, multiple expansion of)
   p. 163 (Federal Reserve System)
   p. 165 (monetary policy, money, open market operations)
   p. 167 (quantity equation, quantity theory of money, required reserve ratio)
3. *Special Instructions.* You must pass Test V-B before taking Test VI-A, you must pass Test VI-A before taking Test VI-B, and you must pass Test VI-B before going on to Section VII. If you are working ahead and want to get into applications early, passing Test VI-B makes you eligible for Subsection VIII-B (as well as Subsection VIII-A).

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Test VI-A. Basic Concepts of Money and Banking

Note: This test may be taken only after passing Test V-B, Analytic Test on the Theory of Income and Employment. It may be divided: you may answer questions 1-4 one time and 5-8 another. The test may be taken at any regularly scheduled class period or at any other time convenient to your proctor. It may be repeated as often as necessary to pass. Please use a bluebook, write in ink, and sign the pledge. You may NOT use notes.

Minimum score for passing: 100 percent.

Points awarded for passing: 4.

1. Define money both (a) generally (i.e., a definition applicable to primitive as well as advanced societies) and (b) specifically for the United States (i.e., a definition specifying what to count in estimating the quantity of money).
2. What are the three or four (depending on your textbook) principal functions of money? Explain each briefly.
3. (a) What may legally be counted as reserves by member banks of the Federal Reserve System?
   (b) What are required reserves?
   (c) What are excess revenues?
4. Assume that the federal government prints and spends $10 billion of paper (fiat) money. Assume that the banks maintain a reserve equal to one-fifth of their deposits and that there is no increase in currency outside banks.
   (a) How great is the total increase in the quantity of money? Explain fully.
   (b) How is the total increase in the quantity of money divided between the components specified in your answer to question 1 (b) above?
   (c) How would your answers be changed if part of the increase in the quantity of money remained outside the banking system?

* * *

5. What are open market operations? Explain how they affect the quantity of money. Be brief and to the point.
6. Explain how a change in the required reserve ratios of member banks influences the quantity of money.
7. (a) Explain the quantity equation in five sentences, one for each of the four terms and one for why the two sides are equal.
   (b) Explain the quantity theory of money. Be brief and to the point.
8. (a) What effect does an increase in the quantity of money have on interest rates in the short run? Explain briefly.
   (b) In view of your answer to (a), what effect does an increase in the quantity of money have in the short run on gross private domestic investment? On consumer purchases of durable consumer goods? Explain briefly.

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Sample Test VI-B. Analytic Test on Money and Banking

Note: These questions are the *kind* of questions that will be asked on the written test to be given on Tuesday, October 29, 1974, at 8:10 a.m. The actual questions will be different. You may take the written test *only* if you have previously passed Test VI-A, Basic Concepts of Money and Banking. Please use a blue-book, write in ink legibly, and sign the pledge.

A student wishing to take Test VI-B before or after October 29 should make arrangements with his proctor for an oral test.

Minimum for passing: functionally correct answers to all questions.

Points awarded for passing: 4.

1. Assume that the Federal Reserve Banks buy $1 billion of government securities from misers who take payment in currency which they hoard. (a) How great is the increase in the quantity of money? (b) How great is the effect on GNP?
2. Assume that the Federal Reserve Banks buy $800 million of government securities from commercial banks, that the commercial banks keep a reserve ratio of 20 percent, and that 12½ percent (=1/8) of any increase in the quantity of money takes the form of currency outside banks.
   (a) Explain the process of money creation step by step, using balance sheets for three of the banks involved.
   (b) What is the total increase in the quantity of money? Your answer may be in the form of an infinite series (like 1 + ½ + ¼ + 1/8 . . .); if so, you need not give the total.
   (c) How is the total increase in the quantity of money divided between currency outside banks and bank deposits? Your answer may be in the form of an infinite series; if so, you need not give the totals.
3. Assume that the Federal Reserve Banks buy $500 million of government securities, that the commercial banks keep a reserve ratio of 20 percent against demand deposits and 10 percent against time (savings) deposits, and that there is no increase in the currency outside banks. Will the increase in the quantity of money be equal to, greater than, or less than $2,500 million? Explain.

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Study Guide

Section VII. The Balance of International Payments

1. *Educational Objectives*. The goals of this section are:
   (1) To memorize all the basic principles and concepts of the balance of international payments as evidenced by a score of 100 percent on Test VII-A, a copy of which follows;
   (2) To learn to use the basic principles of the balance of payments to answer new analytic questions similar to those in Sample Test VII-B (see below) as evidenced by (a) functionally correct answers to all questions on a written test scheduled for 8:10 a.m. on Tuesday, November 5, 1974, or (b) passing an oral test given by a proctor, the graduate assistant or the instructor.
2. *Reading Assignments*. Before taking any of the tests, the student should study ONE of the following:
   (a) Spencer, Chapter 35 (pp. 596-606 optional).
   (b) Samuelson, Chapter 33 (sections A and B of Chapter 36 optional).
   (c) Comparable reading in any other standard textbook.

   Attention is called to the glossary in the Fels-Uhler *Casebook*:
   p. 159 (balance of payments, balance of trade)
   p. 160 (deficit in balance of payments)
   p. 162 (exchange rate)
   p. 163 (foreign exchange)
3. *Special Instructions*. You must pass Test VI-B before taking Test VII-A, you must pass Test VII-A before trying Test VII-B, and to pass the course, you *must* pass Test VII-B no later than Friday, December 6, 1974. Since the time of the proctors for giving oral examinations will be limited, you are urged to meet the requirements for this section by November 26. Section VIII normally follows Section VII.

   You may have the Study Guide for the Final Examination at any time after passing Test VII-B.
4. *Tricky Concepts: Balance vs. Equilibrium*. The balance of international payments always balances even though it may be (and usually is) out of equilibrium. The word "balance" in the balance of payments denotes an equality by definition. A balance of payments has two sides. The two sides are equal (i.e., balance) for the same reason that 2 plus 2 equals 4—the terms are defined so that the equality must hold. This is what mathematicians call an identity. It reflects the fact that every international transaction has two sides. Everything bought must be paid for. The value of what is bought appears on one side of the balance of international payments, the way it is paid for on the other. The two sides must inevitably be equal.

   Equilibrium refers to an entirely different kind of balance—a balance of forces. Disequilibrium is not only possible but common, because the forces at work are often out of balance. Generally in economics, equilibrium means a situation that

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can continue indefinitely until the forces that are in balance change; disequilibrium means a situation that is necessarily temporary because the forces at work are out of balance. Suppose a country called Upper Vodka exported $100 million of wheat every year, imported $100 million of automobiles, and had no other international transactions. Its balance of payments would be in equilibrium because the dollars brought in by the exports are just enough to pay for the imports. But suppose it only imported the automobiles and exported nothing. It would have to pay for the automobiles with whatever dollars it happened to have on hand. Its balance of payments would have to balance, but the situation could not last. The $100 million worth of imports would appear in one column (as a debit), the method of paying for it in the other (credit) column, satisfying the mathematical necessity that the sum of the two columns be equal. But sooner or later Upper Vodka would run out of dollars. It then would have to stop importing. Its balance of payments is therefore said to be out of equilibrium.

You have previously encountered the concept of equilibrium in connection with supply and demand, where it referred to a balance of forces on the supply and demand sides so that the price and quantity do not tend to change. Quantity demanded and quantity supplied are equal in equilibrium. If there is disequilibrium—if the price, say, is below equilibrium so that quantity demanded exceeds quantity supplied—the quantity actually bought must nevertheless exactly equal the quantity sold. This is another identity, true by definition. In such a disequilibrium, some people who want to buy get left out, the inevitable result of quantity demanded exceeding quantity supplied. The equality of quantity bought with quantity sold in disequilibrium is exactly the same kind of equality that prevails between the two sides of the balance of payments.

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Test VII-A. Basic Concepts of the Balance of International Payments

Note: This test may be taken only after passing Test VI-B, Analytic Test on Money and Banking. It may be divided: you may answer questions 1-5 one time and 6-10 another. The test may be taken at any regularly scheduled class period or at any other time convenient to your proctor. It may be repeated as often as necessary to pass. Please use a bluebook, write in ink, and sign the pledge. You may NOT use notes.

Minimum score for passing: 100 percent.

Points awarded for passing: 4.

1. What is the balance of international payments?

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2. Why must the balance of payments always balance?
3. What is meant by equilibrium in the balance of payments?
4. Explain why a balance of payments can be in balance in the accounting sense, yet be out of balance in the sense of disequilibrium.
5. What is the difference between a deficit in the balance of payments and disequilibrium in the balance of payments?

* * *

6. What is foreign exchange?
7. What is an exchange rate?
8. Draw diagrams of the supply and demand for foreign exchange illustrating:
   (a) equilibrium in the balance of payments,
   (b) a deficit disequilibrium in the balance of payments.
9. What is the difference between a system of fixed exchange rates and a system of freely fluctuating exchange rates?
10. Explain why freely fluctuating exchange rates tend to eliminate disequilibria in the balance of payments whereas fixed exchange rates tend to perpetuate disequilibria.

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Sample Test VII-B. Analytic Test on the Balance of International Payments

Note: These questions are the ***kind*** of questions that will be asked on the written test to be given on Tuesday, November 5, 1974, at 8:10 a.m. The actual questions will be different. You may take the written test ***only*** if you have previously passed Test VII-A, Basic Concepts of the Balance of International Payments. Please use a bluebook, write in ink legibly, and sign the pledge.

Students wishing to take Test VII-B before or after November 5 should make arrangements with their proctor for an oral test.

Minimum for passing: functionally correct answers to all questions.

Points awarded for passing: 4.

1. If the balance of international payments of Great Britain is in equilibrium with fixed exchange rates, what will be the effect on it of each of the following changes considered in isolation? Will it be disequilibrating? If so, will it create a deficit or a surplus? What specific kinds of transactions in the balance of payments will be affected? Explain briefly.
   (a) An increase in tariff duties on imports into Great Britain.
   (b) Inflation in Great Britain.
   (c) Sale of securities on the open market by the Federal Reserve System.

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(d) Depression in the United States.
(e) An increase in foreign aid by Great Britain to underdeveloped countries.

2. Now suppose that the exchange rate of Great Britain is free to fluctuate. For each of the changes specified in question 1, is the effect to depreciate the pound sterling, appreciate it, or leave it unchanged? Explain briefly.

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Section VIII. Policy Issues: Elementary

1. *Introduction.* The study guides for the first seven sections emphasize abstract ideas —the principles of economics. Sections VIII, IX and X emphasize applications— how to use the principles of economics to interpret, evaluate and understand what's going on in the world you live in. Here you get introduced to the case method. Its essence is thinking for yourself about problems for which there are better answers and worse answers but no ab olutely right answers.

   A lot of students will feel uncomfortable about this. They like the professor to tell them what the right answer is so they can memorize it and give it back on exams. Unfortunately the real world is not like that. It is full of uncertainty. You have to learn to exercise judgment. You will anyway, of course. You would never dream of taking the professor's word for it that taxes should be raised on your father's business, though you might give that answer on a quiz if you thought it would get you a better grade. Instead of inventing an academic game for you to play with prizes for the "right" answers, we'd rather encourage—in fact, we insist on—your thinking for yourself.
2. *Educational Objectives.* The objectives of this section are:
   (1) To learn a systematic approach to policy issues;
   (2) To think through your position on two policy issues in a systematic way.
3. *Class Discussion of a Policy Issue.* On Thursday, November 7, there will be a class discussion of the Fels-Uhler *Casebook*, pages 34-47 (airport delays). Attendance will be limited to students who have passed Analytic Test III-B (Supply and Demand) and have studied the *Casebook*, pages 34-47.
4. *Special Instructions.* You should give top priority to successfully completing the first seven sections, since passing the fourteen tests is required for passing the course. But you may want to start on applications early, either because you get fed up with studying abstract principles without seeing what they are good for or because you have been working ahead of the normal schedule and can spare the time. If so, you can tackle Subsection VIII-A immediately after passing the analytic test for Section III. Similarly, you can proceed to Subsection VIII-B after passing Analytic Test V-B (Theory of Income and Employment).

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Subsection VIII-A. Micro (Economics of the Draft)

1. *Assignment*
   First study pages 34-47 of the Fels-Uhler *Casebook*, where a five-step standard operating procedure (SOP) for analyzing policy issues is explained and illustrated. Then turn to Case 8, "The All-Volunteer Army" (pages 52-71). Use the SOP to work out your position on the issue. You will probably find it helpful to discuss the problem with other students and your proctor. THEN SPEND AN HOUR OR TWO WRITING UP YOUR POSITION, looking up in the *Casebook* or textbook anything you are hazy about. Keep this essay. If you get recycled, your proctor will want to see it.
2. *The Test*
   The test consists of spending about an hour writing a systematic analysis leading to your own personal conclusion on the issue discussed in Case 8. You will not be allowed to use notes or refer to a copy of the case. The question will be: "What is your opinion of the all-volunteer army? Should the United States return to the draft? Analyze the issue systematically."
3. *Criteria for Passing*
   An excellent answer is required for passing. You may repeat the test as often as necessary to pass.

   Bluebooks will be judged by (a) systematicness of approach, (b) skill in use of economic principles, and (c) evidence of independent thinking. With respect to (a), you don't have to follow the SOP step-by-step, but at this early stage you will probably find it advisable to do so. No elaboration should be needed for (b). With respect to (c), there are two easy ways to deal with policy issues, neither one of which will do. One is to start with a preconceived conclusion and find reasons to support it. The other is to reproduce somebody else's thinking. (In college, this usually takes the form of finding out what the instructor thinks and giving it back to him in his own words.) In judging answers, we'll be looking for evidence that you have really wrestled with the issue and come out on top.
4. *Points*
   Passing the test if worth 4 points. With the 56 points for passing the fourteen tests in the seven sections on economic principles, this will give you 60 points, a virtual lock on a C in the course, but hardly any chance for a B.
5. *Special Instructions*
   You must have passed Test III-B (preferably VII-B) before taking Test VIII-A, and you should pass VIII-A before trying VIII-B.
5. *If at First You Don't Succeed . . .*
   If you get recycled, your proctor will explain why. He/she will want to see the essay you wrote in preparation for the test (see paragraph 1, "Assignment," above). A comparison between the essay and the test will show where the trouble lies. If the original essay was deficient, write a new one, referring to the old one as you go along and looking up in the *Casebook* or textbook anything you need to. If the original essay was excellent, you did not have your analysis firmly enough in mind to reproduce it without notes and need to study harder just before retaking the test. You may need to write one paragraph at a time, revising and polishing it before going on.

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Subsection VIII-B. Macro (The Investment Tax Credit)

1. *Assignment*
   First study pages 84-91 of the Fels-Uhler *Casebook*, where the SOP is reviewed and applied to a macro problem. Then turn to Case 13, "Improving the Investment Tax Credit" (pages 92-94), and work out your own position on the issue. SPEND AN HOUR OR TWO WRITING UP YOUR POSITION, looking up or getting help on anything you are hazy about. Keep this essay to show your proctor in case you get recycled.
2. *The Test*
   The test consists of spending about an hour writing a systematic analysis leading to your own personal conclusion on the issue discussed in Case 13. You will not be allowed to use notes or refer to a copy of the case. The question will be: "What is your position on the investment tax credit? Analyze the issue systematically."
3. *Criteria for Passing*
   An excellent answer is required for passing, but the standard for what constitutes excellence is a little higher than for Subsection VIII-A. You may repeat the test as often as necessary to pass. As with Subsection VIII-A, bluebooks will be judged by systematicness of approach, skill in use of economic principles, and evidence of independent thinking. But this time you will be expected to be flexible in the use of the SOP. *Don't* say, "First, I will define the issue. . . . Second, I will list the goals, policy options, and relevant economic principles. . . . Third, I will. . . ." Be sure you cover all the steps, but be natural about it. In particular, the second step can be implicit. You don't need to list the economic principles you intend to use in the analysis—just go ahead and use them.
4. *Points*
   Passing the test is worth 4 points. With 56 points on economic principles and 4 from Subsection VIII-A, this will give you 64 altogether. A creditable performance on the final examination (16 points out of a possible 20 will give you a B in the course. But an A is still out of reach.
5. *Special Instructions*
   You must have passed Test V-B (preferably VII-B and VIII-A) before taking Test VIII-B, and you must have passed both VIII-A and VIII-B before going on to Section IX.
6. *If at First . . .*
   If you get recycled, your proctor will explain why. He/she will want to see the essay you wrote in preparation for the test (see paragraph 1, "Assignment," above). A comparison between the essay and the test will show where the trouble lies—whether you never really had the problem under control in the first place or had control but lost it. If the original essay was deficient, write a new and better one before taking the test. If necessary, write one paragraph at a time, revising it and polishing it before going on to the next one.

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Section IX. Policy Issues: Intermediate

1. *Educational Objectives*
   In Section VIII you learned a standard operating procedure (SOP) for analyzing policy issues, and you used it successfully to work out your position on two policy issues, one micro and one macro. Now we want you to acquire greater mastery of the SOP. Ideally you would so internalize the procedure that you wouldn't have to think about it explicitly; you would automatically cover all the steps without making it apparent. You may not get that far in this section, but passing the tests will carry you a long way toward the goal.

   In addition to mastering the SOP, we want you to think through your conclusions on a number of policy issues—eight, to be exact. At the end of this course we'd like you to have intelligent opinions on a variety of issues. During your lifetime, many of these issues will come up in American political debate again and again. This is true of the two issues you have already studied, the military draft and the investment tax credit. The cases in this section have been chosen for the enduring nature of the issues. Of course, these issues won't recur in exactly the same form. But if you have thought them through once and have at your disposal the tools for analyzing them in whatever new form they take, your education in economics will have lasting value.
2. *Special Instructions*
   You should ordinarily finish Section VIII before starting Section IX. However, in special circumstances a student who has passed VIII-A may proceed directly to IX-A, and a student who has passed VIII-B may proceed directly to IX-B.

Subsection IX-A. Micro

1. *Assignments*
   Prior to taking the test, you need to study four cases and think through your opinions on the policy issues they raise. The first three are in the first edition of the

Fels-Uhler *Casebook*. The fourth (Case 1974-1) will be in the second edition.* The cases are:

Case 2.	War of Titans on Bumpers (pages 23-35)
Case 4.	Lead Tax (pages 28-29)
Case 6.	Ticket Scalping (pages 32-33)
Case 1974-1.	Information, Please

The best way to prepare for the test is to WRITE UP YOUR ANALYSIS OF ALL FOUR CASES IN FULL.

2. *Goals of Micro Policy*
   There are two questions that arise in connection with any micro policy proposal: What would be its effect on allocative efficiency? and What would be its effect on income distribution? The second question leads to a third: Given my value judgments, is the change in income distribution good or bad? For any particular issue, other value judgments may be important too. For instance, the draft raises questions of freedom, adequacy of the military forces for defense, and desirability of keeping the armed forces from becoming predominantly black. Since time on tests is limited, you need to decide which goals are important enough for the problem at hand to require discussion.
3. *Test*
   When you are ready for the test, see your proctor, who will choose one of the four cases listed above by lot for you to write on. As usual, the question will be in the form: "What is your opinion on . . . ? Analyze the issue systematically." If your written work is up to the mark, the proctor will quiz you briefly on the other three cases.
4. *Criteria for Passing*
   The criterion for passing the written part of the test is excellence. The criterion for passing the oral part is evidence that you have thought seriously about the problems. This test is harder than the tests for Section VIII. Since you have to be prepared on four cases, you must rely less on memory and more on analytic skills. You can take the test as often as necessary to pass. Each time the case you write on will be chosen by lot from among the four listed in paragraph 1. Note that there is a 25 percent chance of getting the same case twice running.
5. *Points*
   Passing the test is worth 4 points. With the 64 points on Sections I through VIII, that makes 68. It will now be easy to get a B in the course (you only need 12 points our of 20 on the final), but an A is still out of reach.
6. *Options*
   It may be possible to substitute another case for one of those listed in paragraph 1. See the instructor.
7. *Preparing for a Second Try*
   If you get recycled, show your proctor the practice essays you wrote in preparation for the test (cf. Paragraph 1 above on "Assignments") for critical review. Then revise them until they are as good as you can make them.

*For the fall semester of 1974 at Vanderbilt, Case 1974-1 was included in the Study Guide distributed to students. It is reproduced here with sample answers as Appendix A.

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Subsection IX-B. Macro

1. *Assignments*

   Prior to taking the test you need to study four cases and think through your opinions on the policy issues they raise:

   Case 16. Why Don't We Attack the Real Source of Inflation? (*Casebook*, pages 100-104)
   Case 1974-5. Tax Cut Urged*
   Case 1974-7. Gold for Oil*
   Case 1974-8. TVA Turns on Its Escalator*

   The best way to prepare for the test is to WRITE UP YOUR ANALYSIS OF ALL FOUR CASES IN FULL.

2. *Goals of Macro Policy*

   The four usual goals of macroeconomic policy are full employment, minimal inflation, economic growth (progress), and equilibrium in the balance of payments. The usual micro goals (allocative efficiency and a fair distribution of income) often are relevant too. For any particular problem, only a few of these goals may be worth considering. Since time on examinations is limited, you need to confine yourself to the main ones. But don't forget that other goals besides the ones named may be vital for a particular issue.

3. *Test*

   When you are ready for the test, see your proctor, who will choose one of the four cases listed above by lot for you to write on. As usual, the questions will be in the form: "What is your opinion on . . . ? Analyze the issue systematically." If your written work is up to the mark, the proctor will quiz you orally on the other three cases.

4. *Criteria for Passing*

   The criterion for passing the written part of the test is excellence. The criterion for passing the oral part is evidence that you have thought seriously about each of the problems. Since you have to be prepared on four cases, you must rely less on memory and more on analytic skills than you did for Section VIII. You may repeat the test as often as necessary to pass it. Each time the proctor will choose one of the four cases by lot.

5. *Points*

   Passing the test on Subsection IX-B is worth 4 points. Passing all the tests in Sections I through IX gives you 72 points. You need only 8 out of 20 on the final examinattion to get a B, and you can get an A in the course by getting an A-minus (18 points) on the exam. But if you want to make sure of an A, go on to Section X.

6. *If Recycled*

   If you are recycled, show your proctor the practice essays you wrote in preparation for the test (cf. paragraph 1 above an "Assignments") for critical review. Then revise them until they are as good as you can make them.

*Cases 1974-5, 1974-7, and 1974-8 were included in the Study Guide distributed to students at Vanderbilt in the fall semester of 1974 but are omitted here. They are scheduled for inclusion in the second edition of the Fels-Uhler *Casebook*.

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Section X. Policy Issues: Advanced

1. *Educational Objectives*
   By now you have mastered a specified set of economic principles, learned a systematic procedure for analyzing policy issues, and thought through your position on ten cases. So far, you have been able to study the cases and discuss them with other students and proctors in advance of tests. You have been able to take your time in maturing your thoughts and reaching conclusions. The final, most difficult goal is to become skilled at dealing with any new economic policy questions that come up in the way they will arise throughout your life. After graduation you will read articles in newspapers and magazines putting forth policy proposals. You may not have time to study them thoroughly the way you could for the tests in Section VIII. You will want to be able to evaluate them quickly. The tests in this section are designed to see if you have reached the point where you can do so.
2. *Special Instructions*
   You may not take the tests in this section until you have passed all the tests in all the preceding sections. But you may take the macro test (X-B) without first taking the micro test (X-A).

Subsection X-A. Micro

1. *Study Suggestions*
   Since the test will be on a case that you have never seen before, there is no new reading assignment. You should review all the micro principles in Sections I, II and III, since you will need to be able to use them. You should practice analyzing issues that you have not studied before, for instance, Cases 7 and 25-28 in the *Casebook*. By the time you take the test, the SOP should be second nature to you —so much so that you not only don't have to think about it but the fact that you are using it should not be obvious.
2. *The Test*
   The test will consist of a new case that you have not seen before. The case will be like those in Subsections VIII-A and IX-A. The question will be in the form, "What is your position on . . . ? Analyze the issue systematically."

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3. *Criterion for Passing*
The criterion for passing is excellence.
4. *Dates of Tests*
Test X-A will be given on Tuesday, December 3, at 8:10 a.m. in SC 5212H. Opportunities to take it at other times will be limited by the availability of unpublished cases, since the same case cannot be used twice. The test will be given only during regularly scheduled class hours.

Subsection X-B. Macro

1. *Study Suggestions*
Since the test will be on a case you have never seen before, there will be no new reading assignment. You should review all the macro principles (Sections IV through VII). It would be a good idea to review the micro principles too (Sections I through III), since macro policy issues often have micro aspects. You should practice analyzing issues that you have not studied before, for instance, Cases 14, 15, 18 and 31-34. If you have passed the test for Subsection X-A, the SOP is probably second nature to you, but you may still need practice in applying macro principles.
2. *The Test*
The test will consist of a new case that you have not seen before. The case will be like those in Subsections VIII-B and IX-B. The question will be in the form, "What is your position on . . . ? Analyze the issue systematically."
3. *Criterion for Passing*
The criterion for passing is excellence.
4. *Dates of Tests*
Test X-B will be given on Thursday, December 5, at 8:10 a.m. in SC 5212H. Opportunities to take it at other times will be limited by the availability of unpublished cases, since the same case cannot be used twice. The test will be given only during regularly scheduled class hours.

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Final Examination

1. *Instructional Objectives.* The time has come to put it all together. A final examination is ordinarily as much a learning experience as a grading instrument. In this course, that is its main purpose. Reviewing for the final means organizing what you have learned in a coherent package—seeing the whole picture. It also means reenforcing knowledge, making it more likely that you will continue to be able to use what you have learned after the course is over.
2. *Study Suggestions.* Make sure that you still have as firm a grip on the principles of economics as you did when you passed the tests of basic concepts and the analytic tests. The best way to do that is to try answering the questions in the study guides *in writing* (it's easy to fool yourself into thinking you know the answers if you merely review the tests mentally). Also make sure you have a firm grip on the standard operating procedure for analyzing policy issues. Try yourself on cases you have not written a paper on, jotting down notes on how you would go about answering an exam question calling for your considered opinion. Remember that in writing up answers you are to use the SOP flexibly, not woodenly—don't say "now I will define the problem," "now I will list the goals," etc. Skip the lists; if appropriate, telescope steps 3 and 4; rearrange the order to suit your ideas.
3. *Kinds of Questions.* Part of the final will consist of multiple-choice questions, part will be essay. Since the course did not use multiple-choice questions, you may want some practice. If so, arrange with your proctor or the instructor to take the Test of Understanding in College Economics, Part I. We'll grade your answer sheet and let you know how well you did (we have lots of data available both for Vanderbilt students of recent years and a national sample of students at forty or fifty other places). The score, of course, will not count toward your grade.
4. *Time and Place.* The time of the final examination is the one specified in the examination schedule for the College of Arts and Science for classes meeting on Tuesdays and Thursdays at 8 o'clock, namely, Saturday, December 14, 1974, at 3:00 p.m. (There will be no alternate final examination. One should not be necessary, since the final in this course counts only 20 percent.)
5. *Early Oral Final.* We would prefer that everybody take the written final examination at the regularly scheduled time. This is because we want to compile data on how much students learn in a self-paced course. That can be done only for students who take the same exam. But since the whole idea of a self-paced course is to let students work at their own pace, we make this offer: anyone who has earned 80 points becomes immediately eligible for an oral final examination given by the instructor.

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6. *Possible Points*. You can earn up to 20 points on the final examination in addition to whatever you have earned during the semester. As you know by now, you need a total of 90 points for an A, 80 for a B, etc.
7. *Eligibility*. To be eligible to take the final examination, you must have passed all seven tests of basic concepts and all seven analytic tests. If you have not done so, you may enroll in Ec.-B.A. 110 for the spring semester and will be permitted credit for whatever you accomplished during the fall. You must also complete the anonymous student evaluation questionnaire. If you have not done it sooner, you will have to do it at the final examination before starting to answer the exam questions. We need to know how well this course works and what needs to be done to improve it.
8. *Last Class Meeting*. Please come to class on Tuesday, December 10, 1974, for last-minute instructions about the final examination. Attendance is expected in this course on only three occasions: the first meeting, the last meeting, and the final exam. As much time as possible on December 10 will be devoted to reviewing and answering questions.
9. *Student Evaluation Questionnaire*. A copy of the anonymous student evaluation questionnaire will be distributed later. Please fill it out toward the end of the semester. To preserve anonymity, we would like you to turn it in to someone not connected with the course in any way; and to make sure we get evaluations from everybody, we want to check off your name when you turn it in. A neutral party will be at the last class meeting (December 10) and the final examination for this purpose.
10. *Extra Reading*. Because this course demands mastery of whatever you do, we have omitted some of the textbook assignments of Ec.-B.A. 100. If you have time, you may want to do them now, either because you are interested in learning more or because you are under the impression, probably erroneous, that you will do better on the final examination. The omitted assignments are in Paul A. Samuelson, *Economics* (9th edition), Chapters 5, 8, 9, 13, 22, 31, 36, 38 and 42. You may already have read Chapter 8 and part of Chapter 36, since they are mentioned in the Study Guides for this course as optional.

APPENDIX A

Case 1974-1. Information, Please

The following news item is from United Press International. It appeared in newspapers on February 27, 1974. Reproduced by permission.

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It is a report of the 20¢ charge instituted by the Cincinnati Bell Telephone Company for directory assistance, the approval of the charge by the Ohio utility commission, and the opposition by a group of telephone subscribers. (see p.5)

QUESTIONS

1. What government policy problem is raised by the news item?
2. (a) What are the two principal criteria (or goals or objectives) for deciding policy for this problem?
   (b) What are the two policy options implied by the article?
   (c) What is the principal economic concept or principle useful for analyzing the problem other than those involved in the answer to 2(a)?
3. Using the concept or principle in your answer to 2(c), analyze the consequences of each of the policy options.
4. Evaluate the policy options according to each of the goals in turn.
5. What is your conclusion?

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Sample Answers to Questions in Case 1974-1

1. The policy question is whether the various agencies that regulate telephone companies should approve applications like the one in Cincinnati to charge for directory assistance.
2. (a) The principal criteria for deciding this question are allocative efficiency and fairness of income distribution.
   (b) The choices are to charge or not to charge. (If a charge is to be made, there is the further question of how much to charge. If the students are up to it, this question might be discussed in terms of marginal cost and marginal revenue.)
   (c) Supply and demand analysis, particularly the law of demand.
3. Charging for directory assistance will reduce the number of requests for it. People will be more inclined to look up the number in the telephone book and keep a record of numbers frequently used.
4. (a) Charging (provided the charge is not too high) will increase efficiency, since there is less work done if the caller looks up the number. The caller will do a little more work, but this will be outweighed by the saving in the operator's labor and use of capital equipment (telephone lines). The gain in efficiency is at least partly offset by increased collection costs. It is conceivable that there is a net loss in efficiency but it seems unlikely.
   (b) If the regulatory agencies do their job properly, most of the gain in efficiency and in revenues to the telephone company will be passed on to users of telephone service through lower rates than would otherwise have prevailed. Some telephone users may nevertheless lose on balance. These are the ones who make heavy (and often unnecessary) use of directory assistance. Most people would probably regard the change in income distribution as for the better. The reason some (like those in the news item) oppose charging is their assumption that the gains will not be passed on to the consumers.
5. If the sample answers to question 4 are accepted, charging for directory assistance is desirable since it is efficient and if anything improves income distribution.

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APPENDIX B

Developing Independent Problem-Solving Ability in Elementary Economics*

By Rendigs Fels†

Reversing the usual order, I shall start by summarizing and then elaborate. To set priorities among the multiple objectives of the elementary course in economics, I propose putting on center stage the training of students to analyze economic policy issues for themselves. I further propose that course content be governed by usefulness for analyzing policy issues, that familiarity with the vast volume of material in typical textbooks be sacrificed in favor of mastery of a restricted number of principles and concepts, that certain economic principles now subordinated by textbooks be emphasized, and that certain other principles emphasized by textbooks be pruned. I propose to achieve the central objective by providing students with a detailed statement of high priority concepts and principles to be mastered, by emphasizing the case method of instruction, by furnishing students with a standard operating procedure for analyzing policy issues, and by requiring them to write position papers and take tests on policy issues different from those discussed in class.

I. Toward a Liberal Education

My proposed primary objective of elementary economics derives from the purpose of a liberal education. Liberal means free. A liberal education frees students' minds from the shackles of their own narrow experience. Such liberalization can be achieved by teaching students new ideas and by training them to think for themselves. College courses, including those in economics, commonly emphasize the former and neglect the latter. Everyone agrees that a student should learn how to use his head, and we all applaud when one in fact does so. But instead of training him in mental skills, we concentrate on familiarizing him with as many ideas as we can, giving him little guidance or training in the skill of using them. This is a facet of a wider phenomenon. Universities are rarely surpassed and seldom equaled at transmitting knowledge, but they are readily equaled and often surpassed at developing skills. (The chief exceptions are athletic skills, particularly football and basketball. The reason is the reward structure and motivations of coaches.) To acquire knowledge of French literature, go to college; to learn to speak French, go to Berlitz.

Why should the main objective center on economic policy rather than economic theory? In principle, a person with a liberal education might take a lively interest for the rest of his life in economic theory rather than policy, but in practice a person with

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† Professor of economics, Vanderbilt University, and Secretary-Treasurer, American Economic Association. Special thanks are due the Joint Council on Economic Education for financial support of the experimental course in elementary economics on which this paper is based. Among those who made helpful comments on the paper itself are G. L. Bach, Robert L. Heilbroner, Mark R. Killingsworth, John Siegfried, and Douglas Wagner. Of the many, many people who contributed to the experimental course, it would be gross ingratitude to fail to mention Ewing P. Shahan and Robert G. Uhler.

one semester or one year of elementary economics will promptly forget the theory unless he has developed an interest in applying it to what he reads in newspapers and magazines.[1] For purposes of a liberal education, theory and application must go hand in hand. Learning to apply theory independently, moreover, is very difficult. We cannot assume that if students learn theory they will automatically know how to apply it.[2] It is vital for us to take on the job of helping them learn how to do it.

To avoid misunderstanding, let me be explicit that theory is basic to the approach proposed here. The stress on problem solving, especially applied problem solving, is complementary to theory rather than competitive with it. Too many principles courses today are watered-down versions of intermediate theory and carry theory to the point of zero, possibly negative returns. Even students who know they will be continuing their studies beyond the principles course need instruction in what to do with it.

II. Content of the Elementary Course

To choose development of independent problem-solving skill as the central objective is a radical proposal. A majority of students would rather memorize than think. Their wishes coincide with the practice of many of their teachers. But if my proposal is accepted, certain consequences follow for the content of the elementary course. Encyclopedic coverage of the entire field of economics must be sacrificed in favor of mastery of a highly select list of concepts and principles. To use theoretical skills to solve problems requires greater mastery of the tools than is needed to answer typical examination questions testing familiarity with them. Drastic reduction of coverage would be desirable even under the conventional central objective of teaching as much theory as possible. It would be better for students to master a limited amount of theory than gain vague familiarity with all of it quite apart from what they are going to do with their knowledge, if anything. But when problem-solving skill is made the central objective, cutting down on content becomes imperative, and, as detailed below, the theoretical tools to be emphasized are changed markedly.

To say that the content of the elementary course should be reduced is trite. It is a cliché repeated endlessly and ignored endlessly. That is the way clichés arise. A truth that is universally acted on does not become a cliché. It is the obvious truth that is ignored that gets repeated *ad nauseam*. To go beyond what is trite but true, training students to deal with policy problems must mean selecting from the economist's kit those tools most useful for a liberally educated person who has studied economics for a year or less. The test of whether to include or omit a particular concept is not its importance to the professional economist nor its profundity nor its place in an esthetically elegant theoretical structure. The test is its usefulness to the layman in comparison with the time and effort he must take to learn it—to wit, its benefit-cost ratio.

Applying this benefit-cost test has led me to some familiar conclusions and to some surprises. In macroeconomics, textbooks commonly emphasize the right concepts and principles,[3] but microeconomics teaching needs a major reordering of priorities. First, a number of concepts deserve much less emphasis than they now receive. The theory of consumer choice, though it is a pillar of economic theory, is of too

[1] In his lasting-effects study, Phillip Saunders found a striking correlation between understanding of economics by alumni and the reading of certain periodicals devoted to news about business and economics. This evidence can be interpreted in several different ways, but it is at least consistent with the statement in the text.

[2] See Fels and Uhler, pp. 30-31, for an embarrassing illustration.

[3] Namely, *GNP*, the multiplier, Keynesian equilibrium, money creation, and the instruments of monetary and fiscal policy.

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little use at an elementary level to warrant the time required to teach it. The basic concepts of marginalism have merit, but complex diagrams embodying the theory of the firm and of marginal productivity do not survive the cost-benefit test. On the other hand, supply and demand analysis turns out to be remarkably robust, applicable to a wide variety of problems not conforming to the strict requirements of perfect competition. Social cost, social benefit, externalities, and income distribution deserve far more emphasis than they now get. Finally, elementary texts must discuss certain issues more clearly. Economists are quite rightly efficiency nuts, but the concept of allocative efficiency must be taught at a much simpler level than that required to prove that perfect competition leads to an ideal allocation of resources. The deceptively simple distinction between current and constant dollars requires careful attention. Rationing as a function that any economic system must perform has to be separated out from the familiar what, how, and for whom.

Students, moreover, need to be told precisely what theoretical tools they are expected to master. The extent of the material specified should be strictly limited, and students should be held to high standards of mastery.[4]

III. Instructional Approaches

The case method, which came to dominate the teaching of law and business administration decades ago, has been slow to catch on in economics. But it has great potential for our field, and in recent years there has been an upsurge of interest in it.[5] In the case method, the student is given real-world problems. He is expected to apply to these problems not only the theoretical knowledge he has acquired, but also the analytic methods characteristic of his field. Often there are no clearly right or wrong answers to the questions raised in a case: the object is to develop and to highlight the role which values and norms must play in the formulation of policy.[6] Failure to use the case method in economics in the past has meant that we have filled our students full (if not overfull) of abstract theory but have failed to train them to apply it. Even in recent years, when economics teachers have responded to students' demands for "relevance," so-called cases[7] have often been used merely to illustrate how theory is applied by economists to problems like pollution, population, the drug traffic, and prostitution, rather than to develop the student's own skill and judgment.

[4] For more precise specifications, see the Glossary in Fels and Uhler, pp. 159-169. For an earlier attempt, see Fels 1955, pp. 923-25.

Heilbroner in a letter has suggested that I "add a word about the need to instill a critical view towards the postulates of economics as another task for the introductory course. There is an awful temptation to swallow the received substance whole."

[5] A pioneering attempt was made by Aaron W. Warner and Victor R. Fuchs. More recent efforts have been made by James S. Duesenberry and Lee E. Preston; C. T. Sandford and M. S. Bradbury; Kenneth W. Clarkson and Courtenay C. Stone; G. F. Papanek, D. M. Schydlowsky, and J. J. Stern; Milton H. Spencer (pp. 296-307 and 667-77); Richard E. Attiyeh, G. L. Bach, and Keith G. Lumsden; Robert V. Horton; Donald L. Sjoquist; Lumsden; Klaus Stegemann and Walter Hettich; and Fels and Uhler.

[6] This is the sense in which the term "problem solving" is used in the title to this paper. The student approaches a policy issue with a set of value judgments and perceptions, not necessarily accurate, about the world in which he lives. Solving a problem requires that, within the contraints of what he knows, the student choose a policy option consistent with his value judgments.

[7] The word "case" has unfortunately become ambiguous, but the term "case method" is reasonably definite. (Even in law schools, however, the case method can degenerate into calling on the student to regurgitate the facts and findings of a law case instead of asking him to reason out for himself what the judge's decision should be.) Except for some of the references in the preceding footnote, the word "case" in this paper will always refer to a real-world problem with the student asked to work out the solution.

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Why has the case method been slow to catch on in economics? The main reason has been the existence of a well-developed body of theory which teachers have wanted to teach and students have been content to memorize.[8] But to an important degree, the reason has been the difficulty of writing good cases, or rather in writing good questions and sample answers. Finding suitable material for cases in newspapers and magazines is not especially hard. The trick is to write questions that are intellectually stimulating, yet within the capabilities of beginning students. Enough progress has now been made in the technique of case preparation to warrant asserting that the central objective of the elementary course proposed at the beginning of this paper can be achieved. More precisely, it can be achieved to a sufficient degree to warrant making it the central objective.[9]

At Vanderbilt University, we have been working on the case method for several years under a grant from the Joint Council on Economic Education. Our experience indicates that two different kinds of cases are needed. The simpler kind calls for the student to use his knowledge of economic principles to interpret and evaluate an article from a newspaper or a magazine.[10] Only after students have had some training in such straightforward application are they ready for the more difficult task of thinking through their positions on policy issues. To get them beyond mere rationalization of preconceptions and to make sure they learn to approach policy issues systematically, students need to be trained to use a standard operating procedure. The procedure we teach has five steps: first, define the problem needing to be solved; second, list the main goals or objectives to be sought, the principal policy options, and the economic principles and concepts likely to be most useful in the succeeding steps; third, analyze the likely consequences of each of the policy options in turn; fourth, evaluate the options accordingly to each of the goals in turn; and finally, come to a conclusion on the issue based not only on the evaluations but also on tradeoffs among the goals.[11]

Learning a skill requires practice. Students can be given practice in problem solving through class discussion of cases, through frequent quizzes requiring them to analyze new cases as well as ones they have already studied, and through the writing

[8]Economics teachers have correctly regarded the teaching of economic theory as their first duty. In contrast, when the case method first caught on in business schools, there was available very little in the way of principles to teach. The best that business schools could do was to make students wrestle with hundreds of genuine business problems. As social science and mathematics have come to be applied to business problems, the case method has properly been downgraded, but it remains a powerful teaching tool. Economics, in contrast, has long had a well-developed body of theory which will continue to be the central core of undergraduate courses, but it needs to be enhanced by the use of the case method.

[9]For some of the evidence, see Horton, Lumsden, and Sjoquist.

[10]For example, the student is given an excerpt from President Nixon's speech of August 15, 1971, announcing his New Economic Policy, in which he said, "Tax cuts to stimulate employment must be matched by spending cuts to restrain inflation." The student is asked if he agrees. This is a suitable question for class discussion. Enough students can answer it correctly to show that it is not too hard, but all students benefit from discussion leading to explicit explanation of the inconsistency in the speech. For further examples, see Fels and Uhler, pp. 18-33, 72-83, 113-117, and 132-35.

[11]For details, see Fels and Uhler, pp. 34-47 and 84-91. Three comments on the standard operating procedure are in order. First, since it can be used for any problem requiring decision, its value for a liberal education transcends economics. Second, training students to use it may have the undesirable side effect of leading to woodenness in their position papers and answers to examination questions. I believe, though, that the side effect is not serious. If, as is to be hoped, the students continue to approach policy issues systematically after the course is over, the woodenness will disappear. Third, the procedure has an implication for course content: the need for including explicit discussion of economic value judgments.

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of short position papers. Alternatively, the Keller system of personalized self-paced instruction can be used (see Fred S. Keller; see also J. S. McMichael and J. R. Corey). But practice is not enough. Practice does not make perfect unless it is accompanied by quick feedback—praise for what the student does right, suggestions for how he could do better, correction of errors. Quizzes must be returned promptly with numerous comments; papers must be revised and improved in response to constructive criticism. Teaching a skill requires patience and tolerance. Learning a skill requires patience and tolerance. Learning to skate on ice means falling down; learning to solve economic problems means making blunders. The instructor in either case must be patient, tolerant, and encouraging.

These how-to-do-it comments are incidental to my main theme. They have been included because selection of ends cannot be divorced entirely from availability of means. No goal, however worthy, should govern action if there are no means for achieving it. It was therefore incumbent on me to sketch a roadmap for reaching the destination. But the main thrust of this paper is to respond to R. A. Gordon's unpublished comments at last year's session on economic education. He chided the Committee on Economic Education for concentration on teaching methods and neglecting the crucial problem of course content. His criticism was just. Teachers of economics all too often proceed on the basis of tacit assumptions about objectives, assumptions that would not stand up under critical examination. I have argued that the central objective of the elementary course should be developing independent problem-solving ability. To adopt that objective as the guiding principle for course content would help eliminate the common error of overloading the elementary course and lead to the maximum contribution to a liberal education.

REFERENCES

R. E. Attiyeh, G. L. Bach, and K. G. Lumsden, *Basic Economics: Theory and Cases*, Englewood Cliffs 1973.

K. W. Clarkson and C. C. Stone, *Microeconomics in Action*, Englewood Cliffs 1971.

J. S. Duesenberry and L. E. Preston, *Cases and Problems in Economics*, Englewood Cliffs 1970.

R. Fels, "On Teaching Elementary Economics," *Amer. Econ. Rev.*, Dec. 1955, *44*, 919-32.

_____ and R. G. Uhler, eds., *Casebook of Economic Problems and Policies: Practice in Thinking*, St. Paul 1973.

R. V. Horton, "Student Applications in a Principles Course of Economic Analysis to Self-Discovered Items," Instit. for Res. in the Behavioral and Social Sciences, paper no. 354, Lafayette 1972.

F. S. Keller, "Good-by Teacher," *J. Applied Behavior Analysis*, Spring 1968, *1*, 79-89.

K. Lumsden, "The Use of Cases in Teaching Economics: An Uncontrolled Experiment in the Principles Course," mimeo., 1973.

J. S. McMichael and J. R. Corey, "Contingency Management in an Introductory Psychology Course Produces Better Learning," *J. Applied Behavioral Analysis*, Summer 1969, *2*, 79-83.

G. F. Papanek, D. M. Schydlowsky, and J. J. Stern, *Decision Making for Economic Development: Text and Cases*, Boston 1971.

C. T. Sandford and M. S. Bradbury, *Case Studies in Economics: Economic Policy*, London 1970.

P. Saunders, *The Lasting Effectiveness of Introductory Economics Courses*, Final Report, *NSF* Grant GY208, mimeo., 1973.

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D. L. Sjoquist, "The Use of Case Problems in Principles of Economics," mimeo., undated.
M. H. Spencer, *Contemporary Economics*, New York 1971.
K. Stegemann and W. Hettich, *Micro Economics Applied to Press Reports*, Toronto 1973.
A. W. Warner and V. R. Fuchs, *Concepts and Cases in Economic Analysis*, New York 1958.

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APPENDIX C
Textbook Alternatives

The Vanderbilt-JCEE experimental course can be adapted to any standard textbook, albeit with a certain amount of work. The study guides for sections I through VII have already specified alternative assignments in two textbooks. By way of illustration, suggested assignments are given here for two others, namely:

> George Leland Bach, *Economics: An Introduction to Analysis and Policy*, 8th ed. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1974.
>
> Campbell R. McConnell, *Economics: Principles, Problems, and Policies*, 5th ed. New York: McGraw-Hill Book Co., 1972.

The study guides may have to be revised and reshuffled to fit the assignments in these or any other tests. It is imperative that the instructor, before getting committed, compare the assignments with the study guides in detail and make whatever adjustments seem advisable. As pointed out in the text above, a PSI course requires that all details be carefully planned before the course begins. Afterwards is too late.

Study Guide (section no. and title)	Suggested Assignments	
	Bach	McConnell
I. Functions of Economic Systems	Chapters 1-3	Chapters 1-3 and 5
II. Economic Efficiency	Chapters 35-36	Chapter 6
III. Supply and Demand	Chapters 5-6	Chapters 4 and 24
IV. National Income Accounts	Chapters 7 (optional) and 8 (required)	Chapters 10 (required) and 15 (optional)
V. Theory of Income and Employment	Chapters 9-11	Chapters 12-14 (required) and 15 (optional)
VI. Money and Banking	Chapters 12, 13 and 16 (required) and 17-18 (optional)	Chapters 16-18 (required) and 19 (optional)
VII. The Balance of International Payments	Chapters 40 (required) and 41 (optional)	Chapter 43 (required) and pages 770-782 (optional)

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APPENDIX D
The Case Method in an Otherwise Conventional Course

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I. Description of Course

The case method can be used in conjunction with an otherwise conventional course relying on lectures, class discussion and a standard textbook. That is the way it has ordinarily been used so far, and that is the way most instructors will continue to use it until more experience is gained with the experimental PSI course described in the main part of this report. In spite of what I said there about the need to adapt to local conditions, freedom to maneuver is much more limited with the PSI course than with a lecture-discussion-case-method course. But since I have often been asked for suggestions, this Appendix provides details of the course I taught in 1973. The next section includes three handouts given to students: the syllabus (revised to incorporate changes made after the semester began), a list of what I regarded as the most important concepts and principles in the course, and an explanation of the somewhat usual grading system used. Section III gives summary outlines for all the class meetings.

There were 160 students enrolled in the course. This was abnormally large. At Vanderbilt we aim for sections of 125 in the elementary course. There was a graduate assistant to help me. About half of class time was devoted to lecturing on the important principles and concepts listed in the handout. The lecture on a principle was normally followed by class discussion of a case applying it to a real-world problem.

There were five reasons for lecturing in spite of the evidence cited in footnote 2 of the description of the PSI course in the text above indicating that the value added of lectures is ordinarily miniscule (see page 12). First, many students at Vanderbilt want and expect lectures. They feel deprived and uncomfortable without them. Second, the lectures told the students what I thought was important. They might not pay

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serious attention to the list of important concepts and principles; they may find out from quizzes too late, but anything I troubled to lecture on they knew was a priority idea. Third, although the written word is generally the most efficient way to convey an idea, some students learn better by listening than by reading. Fourth, the case method requires emphasizing certain concepts and principles, particularly allocative efficiency, that get short-changed in textbooks (*cf.* Appendix B). In any micro policy issue, one of the two questions that has to be raised is what are the effects on allocative efficiency. (The other is the effects on income distribution.) Fifth, the lectures set up the discussion of cases. This was useful since I could not count on the students studying the textbook in advance.

Class discussion was not seriously impeded by failure of some students to read the case in advance. Most of the cases are short. I could read them aloud or summarize them in a short time, and the students could read or reread them while class was going on. At the time, the cases had not been published. They were reproduced locally and included in what the syllabus refers to as the *Student Packet*. They have subsequently been published (see Section III for the reference).

Whenever I tell someone that I like big classes because I use the discussion method, I meet with incredulity. The paradox is simply explained. The majority of Vanderbilt students are nice quiet middle-class southerners who like to melt into the anonymity of a lecture course and never want to talk to a professor in or out of the classroom. To get enough students willing to talk for the discussion method to work, I need a large class. (I hardly ever have a student make a nuisance of himself by talking too much, and when I do, I have little trouble putting a damper on him.)

Quizzes were scheduled frequently. The quiz is one of the best teaching devices at our disposal. It tells the student even more effectively than lecturing what is important in the course. It gives students feedback about how they are doing, what they need to do to improve, what they are doing right and should go on doing. Preparing for a quiz stimulates effective studying. If the questions are the right kind—calling for more than memorization—concentrated struggle with them does more for the student than any lecture. (Contrast the attention students typically pay during lectures with their attitude during quizzes.) That instructors commonly regard quizzes as time stolen from the real business of teaching (lecturing) is an aspect of the input-output fallacy, the fallacy of thinking that the more you put into a course the more the students will get out of it.

A short paper was required of all students, and extra papers could be substituted for missed quizzes. The papers were on policy issues that had not been discussed in class. I gave students who turned in their papers early enough written comments and the opportunity to revise the paper to improve the grade.

To get feedback and evaluation of the class meetings, I used three devices. I tape-recorded the meetings and listened to the tapes afterwards, a chastening but valuable procedure. I employed a senior who was majoring in the department to attend the class. He gave me a written evaluation which included a numerical rating of the meeting on a scale of 0 to 10. I told him to give the first meeting the middle score (5) and to rate all other meetings in comparison to it. (He was not to compare me to other instructors he had observed, because that would not have been useful to me. In fact, it might have dealt a blow to my morale, and since anonymity was impossible, it might have led to an upward bias. The purpose was to help me improve by letting me know what was good or bad about my performance.) In addition, the senior recruited several members of the class to give him similar evaluations and ratings after each meeting, which he turned over to me. These were anonymous and quite helpful. After

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the class I jotted down my own evaluation for future reference, taking into account what the students had to say.

II. Handouts for Students

A. *Syllabus*

Vanderbilt University
Economics and Business Administration 100
Introductory Economics: The Price System
and Business Fluctuations
Fall Semester 1973
Section 1 (Fels), 8:10-9:25 TT

N.B. This syllabus is ONLY for Fels's section (section 1). Other syllabuses listing nearly the same assignments but in somewhat different order are available for other sections.

Materials to purchase:

Required:

Milton H. Spencer, *Contemporary Economics*.

Elementary Economics Student Packet, Economics/Business Administration 100, Cases for First Semester, Vanderbilt University, July 1973. (Note: the material in the packet and the syllabus should be kept in a loose-leaf binder.)

Optional:

Robert C. Bingham, *Economic Concepts: A Programmed Approach*

Meeting time:

8:10-9:25 Tuesdays and Thursdays in Furman 114.

Attendance policy:

Attendance mandatory on quiz dates (see below), otherwise optional. Documentary proof of personal illness is required if a student is to be excused from quizzes. (In rare cases, other excuses for absence may be accepted.)

Quiz dates:

Fifty-minute quizzes are scheduled for the following dates:

Thursday, September 13
Thursday, September 27
Thursday, October 11
Thursday, November 1
Thursday, November 15
Thursday, November 29

The dates given above are subject to changes to be announced in class. There will be NO makeups. Only the five highest grades will be counted.

Papers:

Each student is required to write at least one short paper (1,000 words or less) demonstrating ability to arrive at an intelligent position on an economic policy question. These papers will not require library investigation and need not involve any reading beyond the regular assignments. Normally, papers should be on cases in Appendixes B and D of the Student Packet or on other subjects suggested by the instructor. The due date is Thursday, November 15.

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Grades

The final examination will count approximately one-third, with quizzes, papers and class discussion counting two-thirds. Students may submit extra papers to compensate for low grades on quizzes.

Office hours

The instructor will normally be available immediately after class in Old Central 206. If this is not convenient make an appointment with him by calling Mrs. Moore (extension 264) or 2595). Office hours of the graduate assistant will be posted.

Objectives

The main objectives of the course are (1) to teach specified economic concepts and principles and (2) to provide training in how to apply the concepts and principles to new contexts, particularly policy issues as reported in newspapers and magazines.

(1) The Glossary in the Student Packet specifies and summarizes the economic concepts and principles. The chief method of learning them is by studying the textbook (Spencer). For those students who like programmed instruction, Bingham's *Economic Concepts: A Programmed Approach* (Sections 2-6 and parts 2 and 3 of Section 12) is recommended.

(2) Class discussion of the cases in *Elementary Economics Student Packet* is the principal method of providing training in applying economic principles to new contexts and policy issues. A systematic approach to policy issues is described in the Instructions to Part Three of the Student Packet.

Further information

A separate memorandum entitled "Grading System" will be distributed at the second class meeting.

Assignments

(Modifications in the assignments specified here will be announced in class.)

I. For first quiz (September 13)

Student Packet

Part One. Allocative Efficiency and Income Distribution, pp. 1-12.

Part Two. Instructions.

Case 1. The World's Biggest Storage Battery

Case 2. War of Titans on Bumpers

Case 3. Pollution and Poverty

Spencer, *Contemporary Economics*

Chapter 1. What is Economics? What Do Economists Do?

Chapter 2. Resources and Goals of Our Economic System

II. For second quiz (September 27)

Spencer, *Contemporary Economics*

Chapter 3. Capitalism and the Price System: Our Modified Market Economy

Chapter 4. The "Laws" of Supply and Demand: The Price System in a Pure Market Economy

Student Packet

Part One. Allocative Efficiency and Income Distribution, pp. 12-27.

Part Two. Case 4. Lead Tax

Case 5. The Price of Sin
Case 6. Ticket Scalping

Bingham, *Economic Concepts* (Optional)
Section 2. Scarcity
Section 3. Fundamentals of Demand and Supply

III. For third quiz (October 11)
Spencer, *Contemporary Economics*
Chapter 20. Working with Supply, Demand, and Elasticity: Some Interesting Applications
Chapter 6. The Public Sector: Government
Student Packet
Part Three. Instructions.
Case 7. Migrant Workers
Case 8. The All-Volunteer Army

IV. For fourth quiz (November 1)
Spencer, *Contemporary Economics*
Chapter 7. National Income and Product: How Do We Measure the Economy's Performance?
Chapter 8. Business Cycles, Unemployment, and Inflation: What Does the Record Show?
Chapter 9. Consumption, Saving and Investment: Elements of the Theory of Income and Employment
Chapter 10. Income and Employment Determination
Chapter 12. Fiscal Policy and Full Employment without Inflation
Student Packet
Part Four. Instructions.
Case 9. President Nixon on Tax Cuts and Spending Cuts
Case 10. Pollution, Inflation and Growth
Case 11. Empty Seats
Case 12. Savings: A Tight Fist on Recovery?
Case 13. Improving the Investment Tax Credit
Case 14. Jumpy Food
Case 15. After the Freeze
Case 18. British Case for "Inflation Accounting"

Bingham, *Economic Concepts* (Optional)
Section 4. National Income Accounting
Section 5. National Income Analysis

V. For fifth quiz (November 15)
Spencer, *Contemporary Economics*
Chapter 13. Money and Credit in Our Economy
Chapter 14. Deposit Banking, the Federal Reserve System, and Monetary Policy
Student Packet
Part Five. Case 16. Avoiding Boom-Bust
Bingham, *Economic Concepts* (Optional)
Section 6. Money and Banking

VI. For sixth quiz (November 29)
Spencer, *Contemporary Economics*
Chapter 34. International Finance: The Payments of Nations
Chapter 36. The Less Developed Countries: Nations in Poverty

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Student Packet
Part Six. Case 19. Nixon's New International Policies
Case 20. Industry Pleads for More Gold
Bingham, *Economic Concepts* (Optional)
Section 12, parts 2 and 3. The International Balance of Payments

VII. For last two weeks of course
Spencer, *Contemporary Economics*
Chapter 37. Understanding Socialism and Communism
Chapter 38. The Command Economies of Russia and China
Student Packet
Part Five. Case 17. A Radical View of Wage-Price Controls

B. *Important Economic Principles and Concepts*

Vanderbilt University
Economics and Business Administration 100
Section 1 (Fels)
Fall 1973

Highest Priority: Listed below in alphabetical order are the most important ideas in this course. Students are expected to *master* ALL of them. By the end of the course, the student should be able to (1) define or explain each one and respond to clarifying questions well enough to convey the idea to a sister, brother, mother or father who has not studied economics and (2) to apply it to understanding newspaper and magazine articles and to working out an intelligent position on economic policy issues. Each of the ideas listed below is defined in the Glossary at the end of the Student Packet and, with one exception, is explained in the textbook. The exception is the standard operating procedure for analyzing policy issues, which is explained in the Instructions to Part Three of the Student Packet. It is suggested that the student locate the following concepts in the Glossary and mark them with an asterisk.

aggregate demand
allocative efficiency
bank deposits, multiple expansion of
benefit vs. ability-to-pay principle of taxation
consumer sovereignty
deficit in balance of payments
equilibrium of expenditure and output
externalities (social cost and benefit)
functions of any economic system
gross national product
income distribution
multiplier
open market operations
opportunity cost
other things remaining the same
prices, role of, and price system
rationing

real income and other applications of "real" concept; constant vs. current dollars
standard operating procedure (5 steps) for analyzing policy issues
supply and demand, law of

Second Highest Priority: All the principles and concepts in the Glossary at the end of the Student Packet are of either first or second priority. By the end of the course the student should be thoroughly familiar with the second priority ideas. This means that when the idea comes up in an examination question or newspaper article, the student will understand what is going on even though the idea is not explained.

Third Priority: At the end of each chapter of the textbook, you will find a summary and a list of important ideas, which include first and second priority items and much else besides. The "much else" is considered third priority. The student is expected to become sufficiently familiar with third priority information so that a brief reminder will be enough to recall it to mind.

Fourth Priority: The textbook and other assignments contain a great deal of other information which is designated as fourth priority. Such information is useful for understanding the more important ideas in the course.

C. *Grading System*

Vanderbilt University
Economics and Business Administration 100
Section 1 (Fels)
Fall 1973

Frequent quizzes are given primarily for learning purposes, secondarily for grading purposes. Quizzes inform the students of what is expected in the course and how well or poorly they are doing. Moreover, the activity that goes on during the quiz—particularly the effort to answer questions requiring thought—can make a significant contribution to learning.

The grading system adopted for this section is designed to emphasize the learning function of quizzes and to deemphasize the grading part. If the student does well on a quiz, he will get appropriate credit toward his grade. If he does badly, the system gives him ample opportunity to recover without serious penalty. We want to avoid putting anyone in a deep hole from which he cannot climb out.

Instead of letter grades, the quizzes will be marked "OK" if the answers are satisfactory, "good" or "excellent" for answers better than expected, and "weak" or "unsatisfactory" for a performance not up to the standards set in the course.

Each student is expected to write at least one short paper (1,000 words or less, not including footnotes, bibliography, charts, tables, and appendixes, on which there is no limit). Additional papers may be submitted to make up for unsatisfactory grades on quizzes.

Only *the best six grades on quizzes and papers* will be counted toward the final grade.

The syllabus says that the final examination will count approximately one-third. This is true in the sense that the grades on quizzes and papers will provide a cushion or

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floor and will count two-thirds if that is to the student's advantage. But if a student does satisfactory work ("OK") on six quizzes and papers, he can get an *A* in the course by getting an *A* on the final examination (and similarly for a *B*). On the other hand, if a student gets less than a *C* on the final examination but has six grades of "OK" on quizzes and papers, two-thirds of his average will be figured as a *C* (or higher if he has received some "goods" and "excellents").

The final examination will be difficult and demanding, and it will be graded rigorously. But our objective is for everyone to pass the course, preferably with at least a *C*, and for everyone to go into the final examination with the possibility of getting an *A*.

III. Summary Outlines for all Class Meetings

The class met twenty-eight times for 75 minutes, the equivalent of forty-two 50-minute meetings.

The word "lecture" as used below usually means a combination of lecturing and discussion in which exposition is dominant. The word "discussion" does not preclude some exposition, but it implies the objective of increasing the student's skill in analysis.

All the cases listed in this outline are now in Rendigs Fels and Robert G. Uhler, Eds., *Casebook of Economic Problems and Policies: Practice in Thinking*. St. Paul: West Publishing Co., 1974. (A second edition is scheduled for March 1975. The references below are to the first edition.)

The question period listed before each quiz may, if necessary, be used to finish the discussion begun at the previous meeting.

Meeting Number	*Subject*
1	I. Objectives of the course (lecture) II. Allocative efficiency (lecture) III. Case 1, The World's Biggest Storage Battery (discussion) IV. Conclusion
	• • •
2	I. Consumer sovereignty (lecture) II. Case 2, War of Titans on Bumpers (discussion)
	• • •
3	I. Externalities (lecture) II. Case 3, Pollution and Poverty (discussion)
	• • •
4	I. Question period II. Quiz
	• • •
5	I. Discussion of quiz (lecture) II. Income distribution (lecture) III. Case 4, Lead Tax (discussion)
	• • •

Meeting Number	*Subject*
6	I. Supply and demand analysis (lecture) II. Case 5, The Price of Sin (discussion)
	* * *
7	I. Rationing and the functions of any economic system (lecture) II. Case 6, Ticket Scalping
	* * *
8	I. Question period II. Quiz
	* * *
9	I. Discussion of quiz (lecture) II. Standard operating procedure for analyzing policy issues (lecture) III. Instructions to Part Three of Fels-Uhler *Casebook:* Airport Delays (discussion)
	* * *
10	I. Prices, role of, and price system (lecture) II. Case 7, Migrant Workers
	* * *
11	I. Opportunity cost and real cost (lecture) II. Case 8, The All-Volunteer Army (discussion)
	* * *
12	I. Question period II. Quiz
	* * *
13	I. GNP and related concepts (lecture) II. Case 11, Empty Seats (discussion)
	* * *
14	I. Benefit vs. ability-to-pay principles of taxation (lecture) II. Case 18, The British Case for Inflation Accounting (discussion)
	* * *
15	I. Question period II. Quiz
	* * *
16	I. Discussion of quiz (lecture) II. Aggregate demand, the multiplier, equilibrium of expenditure and output (lecture)
	* * *
17	I. Case 9, President Nixon on Tax Cuts and Spending Cuts (discussion) II. Case 10, Pollution, Inflation, and Growth (discussion)
	* * *
18	I. Other things remaining the same (lecture) II. Case 13, Improving the Investment Tax Credit (discussion)
	* * *
19	I. Question period

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Meeting Number	*Subject*
	II. Quiz
	* * *
20	I. Discussion of quiz (lecture) II. Bank deposits, multiple expansion of, and open market operations (lecture)
	* * *
21	I. Case 16, Why Don't We Attack the Real Source of Inflation? (discussion) II. Case 15, After the Freeze (discussion)
	* * *
22	I. Case 17, A Radical View of Wage-Price Controls (discussion)
	* * *
23	I. Question period II. Quiz
	* * *
24	I. Discussion of quiz (lecture) II. Deficit in balance of payments (lecture) III. Case 19, Nixon's New International Policies (discussion)
	* * *
25	I. Case 20, Industry Pleads for More Gold (discussion)
	* * *
26	I. Question period II. Quiz
	* * *
27	I. Review of important concepts and principles (lecture)
	* * *
28	I. Continuation of review of important concepts and principles (lecture)

IV. Detailed Outlines for Selected Class Meetings

The preceding section gives a summary outline for all the class meetings of the more conventional version of the VU-JCEE experimental course. This section gives a detailed outline for selected meetings—a revision of the notes used in class during the spring and fall of 1973.

Detailed Notes for Meeting #1

0. (On blackboard)
   A. Copies of syllabus for this course are being distributed—be sure to get a copy.

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B. For the next meeting (#2), please read:
   1. Fels-Uhler *Casebook*, Part One, "Allocative Efficiency and Income Distribution," pages 3-6.
   2. Cases 1 and 2.

C. For the following meeting (#3), please read:
   1. Fels-Uhler *Casebook*, Part One, pages 6-9.
   2. Textbook, Chapters 1-2.
   3. Case 3.

D. First quiz at meeting #4 on above assignments

I. Objectives of the course

A. The three immediate objectives of this course are:
   1. To learn certain ideas—called concepts and principles—specified in a handout to be distributed Thursday;
   2. To develop skill in using the concepts and principles to evaluate economic discussions in newspapers and magazines or on radio and television;
   3. To master a systematic approach to economic policy issues.

B. Today's meeting will illustrate the first two of these three immediate objectives.
   1. I shall explain one of the top priority concepts, allocative efficiency.
   2. We shall then apply it to the magazine article reproduced in Case 1 in the *Casebook*.

C. These immediate objectives are meant to contribute to the long-run objectives of a liberal education.
   1. The test of whether a person is liberally educated is what kind of person he becomes 5, 10 or 20 years after graduation.
   2. Liberal means free: a liberal education frees the mind from the limitations of a person's own narrow experiences through contact with a wide range of ideas.
   3. To contribute to a liberal education, this course must look far beyond the final examination and provide something of lasting value.
   4. To do this, we try to provide knowledge that students can use forever after and to give practice in actually using it.

II. Efficiency

A. How many of you are planning to become professional economists? [That's good— there are too many economists already.]
   1. Economists are concerned with economic efficiency, which is defined to include:
      a. Allocative efficiency,
      b. Full employment of labor (every worker who wants a job can get one—no involuntary unemployment),
      c. Technical efficiency.
   2. Economics is concerned primarily with *a* and *b*.
      a. Allocative efficiency in a moment.
      b. Full employment in the last half of the course.

B. I define *allocative efficiency* to meet that the country uses its productive resources so as to best satisfy the wants of the people, given their tastes and incomes. [repeat]
   1. By productive resources is meant the available labor, capital goods (buildings, machinery, inventories and natural resources, which are also called:
      a. Factors of production.

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b. Inputs (in contrast to outputs).

2. The word "scarce" calls attention to the fact that there are not enough productive resources to provide people with all the goods and services they would like to have—scarcity is what economics is all about.
3. "Uses its productive resources" refers to
   a. What the textbook refers to as solving the problem of *what to produce*.
   b. What is also called the goods mix.
4. "So as to best satisfy the wants of the people" means giving me the collection of goods best for me and giving you the collection best for you:
   a. It means producing tennis balls and bow ties and short haircuts for me,
   b. golf clubs and wide ties and long haircuts for you,
   c. and jeans for us both.
5. "Given their tastes" means that I am the judge of what is best for me, you for you: I don't insist on your playing tennis, and you'd better not insist on my playing golf.
6. "Given their incomes" means that allocative efficiency abstracts from income distribution.
   a. Efficiency is concerned with the size and kind of pie, income distribution with the way the pie is divided up.
   b. Allocative efficiency requires producing yachts for the wealthy if that is what they want, even though the productive resources needed to make yachts could have been used to produce food for the hungry.
   c. More precisely, allocative efficiency—and economic efficiency—means that nobody can be made better off without making somebody else worse off. [repeat]
   d. Allocative efficiency must be distinguished from income redistribution —making one person better off at the expense of making somebody else worse off. Robin Hood may have done good by taking from the rich and giving to the poor, but that was a change in income distribution, not an increase in efficiency.

C. How many of you are going to become engineers? [Good—I'm glad to see that—the demand for engineers is increasing.]
   1. In your future work as an engineer, will you be concerned with efficiency?
   2. What does the word *efficiency* mean to an engineer?
   3. Does it mean using the latest, most up-to-date methods? [In economics it may mean *not* using the most up-to-date methods—e.g., in China it means farming without tractors.]
   4. Does it mean producing, e.g., dyestuffs, at least money cost? [It did to my father, who was a chemical engineer. But this is not necessarily *economic* efficiency.]
   5. Does it mean getting the most output, e.g., of dyestuffs, from the inputs of raw materials, labor, etc.? [= technical efficiency]

D. I define technical efficiency in either of two equivalent ways:
   1. It means that a *firm* is getting the most output from the inputs employed, given the technological knowledge available.
      a. inputs include labor, land, capital, and materials.
   2. Alternatively, technical efficiency means that a firm is producing a given amount of output with the least amounts of inputs.
      a. To be absolutely precise, it means producing a given amount of output with the least amount of each input, given the amounts of the other

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inputs.

3. Is this definition of technical efficiency satisfactory to you engineers?
4. Note that technical efficiency relates to the operations of a *firm*.
5. For economic efficiency of the country, it is a necessary but not a sufficient condition that every firm be technically efficient.

E. How many of you expect to go into business? [Good—I'm glad to see that—demand for college graduates in business is increasing.]
   1. Will you be concerned with efficiency?
   2. What does the word *efficiency* mean in connection with business?
   3. Is it synonymous with profitability?
   4. Does it include technical efficiency as I have defined it?
   5. Does it include anything more?

F. How many of you intend to go into medicine or nursing? [Good—the country needs more doctors and nurses.]
   1. Will you be concerned with efficiency?
   2. What does the word *efficiency* mean in connection with health care?
   3. Does it include technical efficiency as I have just defined it?
   4. Does it include anything more?

G. To recapitulate:
   1. Economic efficiency includes technical efficiency, full employment, and allocative efficiency.
   2. Technical efficiency means that a *firm* is getting the most output from the inputs it employs.
   3. Full employment means jobs for all who want them.
   4. Allocative efficiency means the country produces the goods mix that best satisfies people's wants, given the way incomes are distributed.

III. If you have your Student Packet, please get out Case 1, "The World's Biggest Storage Battery."
   A. Reading of page 2 (aloud).
   B. Reading of question (aloud).
   C. How many choose:
      1. Option (a)?
      2. Option (b)?
      3. Option (c)?
      4. Option (d)?
   D. In (a)
      1. What is the element of truth?
      2. What is the element of error?
   E. In option (d) [sic]
      1. What is the element of truth?
      2. What is the element of error?
   F. In (b), what is the error? [If people would rather have a smaller physical quantity of electricity in the daytime than a larger quantity at night, allocative efficiency calls for giving it to them. Transforming nighttime electricity into daytime electricity is, from an economic point of view, the same as transforming steel into automobiles or bread into toast or electricity into light.]
   G. Why is (c) right?
   H. Recapitulation (*cf.* answers in Staff Notes).

IV. I shall now relate this discussion to the objectives of the course in order to make clear what will be expected of you. By the time of the first quiz on September 13,

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you should be able to:

A. Define allocative efficiency as well as I have done today or as well as it is defined in the Glossary at the end of the *Casebook*;
B. Explain the relation of allocative efficiency to three other top priority concepts—consumer sovereignty, externalities, and the functions of any economic system—in a way that would be clear to a fellow student who has not studied the subject;
C. Answer the question in Case 1 correctly in your own words in a way that would be clear to someone who has not studied it;
D. Correctly answer a similar question on a similar case that you have not seen before (for example, see Case 24—which, however, could not be used on the first quiz, because it requires concepts and principles you will not have had) clearly enough to show me you have the right idea.

[*Evaluation:* This meeting was a revised version of something that has gone over well in the past. The improvements consisted of a much more explicit statement of what is expected of the students and a change in order, explaining allocative efficiency first, technical efficiency later, in order to emphasize the more important idea.]

Detailed Notes for Meeting #2

0. (On blackboard)
   A. By next meeting, please read:
      1. "Allocative Efficiency . . .," pp. 1-12.
      2. Spencer Chapters 1 and 2.
      3. Cases 1-3.
   B. First quiz at meeting #4 in 3 parts:
      1. One part on "book" knowledge.
      2. One part on a case discussed in class (i.e., Case 1, 2 or 3).
      3. One part on a case you have never seen before.
      4. Memorandum on "What Is Expected on Examinations" now available.
   C. Important ideas (concepts and principles) for first quiz:
      1. From "Allocative Efficiency and Income Distribution":
         * allocative efficiency.
         * consumer sovereignty (more in Spencer, Chapter 4).
         * opportunity cost.
         * externalities (social cost and social benefit).
      2. From textbook, Chapter 1:
         economics (see p. 12, col. 1, #1 and p. 2, col. 1).
         mixed economy (p. 2, col. 2, explained more fully in Ch. 3)
         microeconomics (p. 11, col. 2, #1)
         macroeconomics (p. 11, col. 2, #2).
      e. From textbook, Chapter 2:
         * questions every society must answer (see p. 28, col. 1 #4).
         law of scarcity (p. 22, col. 1).
         production-possibilities curve (p. 28, #5 and #6).

* Starred items are especially important.

I. In a market economy, the consumer is king.
   A. Or at least, he's supposed to be.
      1. Why did Tex Ritter put up a chuck wagon across the street from the campus? Because you poor benighted consumers who inhabit this campus want chuck. And you want it badly enough to pay for it.
      2. Why does my old friend Mr. Gilbert endure repeated break-ins and the other discomforts of selling whiskey at the corner of Charlotte and McMillan? Because we poor benighted consumers want whiskey badly enough to make it worth his while.
      3. Why did Coca Cola and other soft drink bottlers give up returnable bottles a few years ago? Why are they returning to returnable bottles now? And why did they brag about it in their advertisements each time they changed? Because a few years ago we consumers wanted the convenience of disposable bottles, whereas now we've changed our minds and are worrying about the environment.
   B. The concept of consumer sovereignty—the idea that the consumer is king—is the heart and soul of the American economic system.
      1. In Russia, the government decides what to produce.
      2. In America, consumers decide.
      3. Russia has a command economy—the government can tell producers what to make.
      4. America has a mixed economy—a mixture of a market economy and a lot of government action.
         a. In the market part of the mixture, consumers through their buying decisions tell businessmen whether to produce hula hoops or yoyos, gin or whiskey, long skirts or hot pants—and how much of each.
         b. In the government part, consumers try through their power as voters to regulate economic life to give them what they want.
   C. Underlying consumer sovereignty are two fundamental propositions.
      1. One is the value judgment that the economic system ought to serve the consumer's interests—i.e., the value judgment that the individual and his welfare are of overriding importance.
      2. The other is the belief that the individual is the best judge of what is good for him.
      3. These are value judgements—if you reject either of them, you are entitled to reject consumer sovereignty and much else about the American economic system.
      4. It follows from these two propositions that producers ought to give consumers what the consumers think they want as indicated by what they are prepared to buy in the market.
   D. Note the connection between consumer sovereignty and allocative efficiency.
      1. The test of allocative efficiency is whether the consumer is getting what he most wants (given the way incomes are distributed).
      2. It is inefficient to produce yoyos if consumers would rather have hula hoops, and vice versa.
   E. Whether the American economy is or is not efficient thus depends partly on whether the consumer really is king—whether it produces what consumers most want.
      1. This question is the subject of Case 2.

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II. Case 2, "War of Titans on Bumpers"
   A. Reading of case
   B. Question 1
   C. Question 3
   D. Question 4
   E. Recapitulation (reading of sample answers to questions 1, 3 and 4 from Staff Notes).

Detailed Notes for Meeting #3

0. (On blackboard)
   A. Quiz at next meeting
      1. Part One on the specified important ideas.
      2. Part Two on a case discussed in class (1, 2 or 3).
      3. Part Three on a case or case-like problem not discussed or assigned.
      4. Sample quiz (from last fall) posted on door of OC 208A.
      5. Special office hours Wednesday, 2-5 p.m., in Oxford House 809.
   B. Important ideas [repeat from #2].
   C. Memo on grading system now available.
1. The grading system described in the memorandum distributed today keeps open the chance of getting a good grade even if you fall down on one or more quizzes.
   A. Ordinarily the quizzes and papers will count two-thirds, the final exam one-third, provided that it is to your advantage.
      1. But as long as the performance on quizzes is satisfactory, a student will still be able to get an A or B in the course by getting an A or B on the final.
      2. Besides, you can always make up for substandard quiz performances by writing one or more extra papers.
   B. Although I am convinced that this system is basically sound and in your interest, the reaction of students last year showed one misunderstanding that we must make an effort to overcome.
      1. Some students felt that the grade in the course depended too heavily on the final exam.
      2. This happens to students aiming for an A or a B who get a string of OK's on quizzes.
      3. But it need not happen—superior work on quizzes will be rewarded, and I'll make an extra effort to show what constitutes superior performance.
II. The subject for today is externalities.
   A. As usual
      1. We shall first discuss the concept.
      2. Then apply it to the problem in Case 3.
   B. Externalities is one of the twenty ideas we want you to learn well enough
      1. To explain it (in five minutes or less) to a naive person,
      2. And to apply it, not only during this semester but ever after, even unto your ninetieth year of age, to new contexts.
   C. Since the concept of externalities is closely related to allocative efficiency and consumer sovereignty, let us start by reviewing those concepts.
      1. What is meant by allocative efficiency? (Glossary: the distribution of land,

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labor and capital among different uses to produce the best goods mix for satisfying people's wants, given their incomes.)

2. What is meant by consumer sovereignty? (The consumer is king in the sense that he gets what he most wants, controlling production through his purchases.)

D. The concept of externalities explains one of the principal reasons why consumers do not always get what they most want, i.e., why there is allocative inefficiency.

1. Externalities are the effects of a firm's actions that are not reflected in its own costs or revenues.

III. The key to understanding why pollution has become an acute problem in the United States lies in the concept of *externalities*.

A. Pollution occurs because the polluters don't have to pay for it.

1. How many of you have cars? When you drive your automobile, you don't have to pay for the air you foul.

2. If some chemical company dumps chemicals into the river, it does not have to pay the cost incurred by some city downriver to remove the chemicals to make the water fit to drink.

3. When a power company belches smoke into the air of the city in the course of generating electricity, it does not have to pay the cleaning bills of the citizens.

B. If you had to pay for the pollution your car causes, you'd be more inclined to do something about it.

1. When the chemical company has to pay for purifying the water, it has an incentive to dispose of its chemical wastes in a better way.

2. If the power company had to pay the cleaning bills for the filth it inflicts, it would be less inclined to do it.

C. All these are examples of a particular kind of externality, the kind in which the total cost exceeds the private cost.

1. The total cost is generally called "social cost" by economists.

2. The private cost is the part of the total cost borne by the individual or firm.

3. The difference between the two is an externality or external effect:
total cost = social cost = private cost + cost inflicted on others (externality)

4. The total cost of operating your automobile consists of the money you have to pay to buy the car, gasoline, insurance, etc.—the private cost—plus the costs you inflict on others by fouling the air they breathe and delaying their progress through congestion of the streets.

5. The total cost or social cost of the chemical company's products includes the private cost of the labor, materials and equipment it buys plus the cost of the external effects of the water it pollutes.

6. What is the total cost for the power company?

D. In one kind of externality, total cost thus exceeds private cost; in the other kind, total benefit exceeds private benefit.

1. Economists call the total benefit either social benefit or social product.

2. Total benefit = social benefit (or product) = private benefit plus benefits conferred on others without compensation (the externality).

3. If I plant flowering dogwood trees in my yard where all the neighbors and passersby can see and enjoy them, I confer benefits on them for which they do not pay me—the total benefit exceeds my private benefit.

4. If the Aluminum Company of America builds a dam to generate electric-

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ty, the dam may reduce flooding downstream, conferring benefits that Alcoa does not get paid for.

5. If you go to college and, what is not necessarily the same thing, become educated, does the social benefit exceed the private benefit?

E. Externalities, particularly those associated with pollution, are the greatest source of allocative inefficiency in the United States.

1. One solution is called "*internalizing* the externalities."
2. This means seeing to it that the polluter pays all the costs, making private costs equal to social costs—
   a. Making automobile drivers pay for *fouling* the air.
   b. Making the chemical company pay for *polluting* the river.
   c. Making the power company pay for *dirtying* the city.
3. Similarly it means making private benefits equal to social benefits—
   a. Subsidizing dam building by Alcoa according to the value of the flood control.
   b. Subsidizing education.
   c. Subsidizing beautification of private property.

IV. Before taking up Case 3, which is called "Pollution and Poverty," let me try to make clear what we are trying to accomplish in discussing the cases.

A. We are trying to develop skill in applying economic principles to new situations.

1. Acquiring this skill, like any other such as ice skating or golfing, requires practice.
2. These discussions are meant to provide practice, not only for those who take part in the discussion but for everybody.
   a. The value comes from thinking through the questions whether you take part in the discussion or not.
   b. The greatest value can be had by writing down what you think the answer is.
3. As with ice skating, you learn only by falling down—don't let that bother you.

B. The two cases we have had so far have been different in character.

1. In Case 1, there was a right answer (or at least a best answer): the production of electricity described was consistent with allocative efficiency, even though converting nighttime electric current into daytime current resulted in a reduction in terms of kilowatt hours.
2. In Case 2, there were no right or wrong answers, merely better or worse answers.
   a. Any one of the options in question 1 could be defended.
   b. What we are trying to do here is not to give you answers but to help you become sophisticated.
   c. And that is what a liberal education is all about.
   d. The emphasis in the cases is on having you think for yourselves.

V. Whereas Case 2 only verged on the policy issue—what should the government do?—in Case 3 we shall in the last question take it up explicitly.

A. To summarize the case.

1. Electric power production in the 4 Corners Region pollutes the air.
2. Strip mining to provide the coal needed to generate the electricity desecrates the landscape, fouls the water with acid runoff, and lowers the water table.

1. But the production of electricity creates jobs and incomes for an oppressed minority group whom we whites have not only mistreated but insulted by glorifying their mistreatment in Western movies.

B. One fact omitted from the case needs to be stated: much of the electricity goes to Los Angeles (cf. Questions 2 and 4), a city with severe pollution problem.

C. Question 1

D. Question 2

E. Question 3

F. Question 4

G. (If time) Question 5

H. Recapitulation (sample answers abridged from Staff Notes).

IV. (If time) Recapitulation of Case 2 (sample answers from Staff Notes).

[*Evaluation*: Students are more likely to be responsive early in the term than later on, and there was a lively, mostly intelligent discussion. In response to the question about whether there were externalities from a college education (III. D. 5 in the outline), a student promptly alleged negative spillovers—education leads to more growth, therefore to more ecological damage. This, I pointed out, implied that the government should tax higher education instead of subsidizing it, and the discussion took off from there.

The case on pollution worked out well also. As luck would have it, there was a Los Angeleno in the class named Mr. Khayt. By dint of sheer willpower, I refrained from making the obvious jokes. Up to this point in the course, the questions and the instructor had focused on efficiency with little on income distribution. One of the students mixed up the two (the antipollution regulations of New Mexico, he said, improve allocative efficiency for people in the Four Corners area but reduce it for Angelenos). This gave me an opening to emphasize the distinction and the importance of keeping the two straight. In response to question 5, we got no further than listing some options for government policy (require antipollution equipment, subsidize it, subsidize nuclear power, tax/not tax). Not surprisingly, nobody thought of taxing polluters, and I had to add that one to the list. I closed by recapitulating this case but had no time to recapitulate Case 2 (for which there had not been time at the previous meeting).]

Detailed Notes for Meeting #9

II. (On blackboard)

A. Next (our) meeting #12:

1. Textbook, Chs. 20 and 6

2. Casebook, Part Three, Instructions, and Cases 7 and 8

3. Also review Cases 2, 4, and 6 in accordance with Instructions to Part Three

B. On next quiz, please be prepared to use 5-step procedure for analyzing policy issues:

1. Define problem

2. List

a. Goals or criteria

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b. Policy options
c. Relevant economic principles and concepts
3. Analyze policy options one at a time
4. Evaluate (rank) policy options according to each goal in turn.
5. Come to a conclusion based on step 4 and your tradeoffs among goals.

C. Priority principles and concepts for next quiz:
elasticity
marginal tax rate
* benefit and ability-to-pay principles of taxation
progressive, proportional, regressive taxes
tax shifting and incidence
* 5-step procedure for analyzing policy issues

D. For Tuesday, please read Instructions to Part Three of Student Packet

I. Return of quiz and discussion of results

II. Learning how to analyze policy issues systematically is one of three main objectives of this course.

A. The other two are
1. To learn the economic principles and concepts as specified in the handout.
2. To learn to use those principles to interpret and evaluate articles in newspapers and magazines.

B. The ordinary person when asked his opinion, say, on whether the government should clamp price controls on gasoline or raise the minimum wage to $2.20 or restore the military draft starts with his conclusion and then looks for reasons to justify it.
1. In other words he rationalizes his preconceptions.
2. The object of this course is to get beyond that stage and to learn to think through your position.

C. I have not the slightest desire to tell you what your position should be on controversial issues.
1. On the contrary I want each and every one of you to think for himself.
2. The purpose of an education is to make people sophisticated.

D. To help to achieve this objective, we shall use a standard operating procedure consisting of the five steps on the board.

III. Airport Delays: first two steps

A. I define the problem as rationing the limited amount of facilities for landings and takeoffs at crowded airports.

B. The goals to be sought are:
1. Efficiency
2. Fairness in income distribution
3. Safety
4. Minimization of the role of government (?)
5. Any others?

C. The policy options are:
1. First-come, first-served (queuing)
2. Selling rights to land and takeoff to the highest bidder (i.e., rationing by price)
3. Rationing by agreement of the airlines and the government
4. Others?

* Top priority

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D. The relevant economic concepts and principles are:
   1. Allocative efficiency
   2. Income distribution
   3. Rationing
   4. Others?

IV. Now let us analyze the consequences of each of the possible policies.
   A. This is primarily a scientific kind of question.
      1. The problem is to predict consequences, ignoring the question of whether we like the consequences or not.
      2. This is in the domain of economics as a positive science.
   B. What are the consequences of first-come, first-served for
      1. Efficiency?
      2. For the incomes (or welfare) of different groups of people?
      3. For safety?
      4. Is it feasible?
   C. What are the consequences of rationing by price for
      1. Efficiency?
      2. For the incomes of different groups of people?
      3. For safety?
      4. Is it feasible?
   D. What are the consequences of rationing by an agreement worked out by the government with the airlines for
      1. Efficiency?
      2. Incomes?
      3. Safety?
      4. Is it feasible?

V. Now let us rank the options according to each of the goals in turn.
   A. Which is best from the point of view of efficiency? Second best? Worst?
   B. Which is fairest? Second best? Worst?
   C. Which is worst from the point of view of safety? Best?
   D. Which is the easiest to administer? Second best? Hardest?

VI. How in your opinion should airport facilities be rationed?
   A. What are your priorities among the goals?
      1. Is safety an important consideration for this problem?
      2. Is feasibility an important consideration for this problem?
      3. Which is more important for this problem, efficiency or fairness?
   B. Poll of class
      1. How many favor first-come, first-served?
      2. How many favor rationing by price?
      3. How many favor rationing by an agreement of the airlines?

Detailed Notes for Meeting #14

I. Benefit vs. ability-to-pay principles of taxation (lecture)

II. We shall now take up "The British Case for 'Inflation Accounting'" first.
   A. I have asked Mr. Lindquist to be prepared to answer my questions, which will follow the format of the five-step procedure.

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B. As usual, the discussion is for everybody's benefit.
   1. To gain skill in using the procedure, you need to think out the questions as we go along, comparing your answers to Mr. Lindquist's, whether you take part in the discussion or not.
   2. But please join in with comments, questions and criticisms.

III. Mr. Lindquist, what is the policy issue raised by the article from *Business Week* on inflation accounting?
   A. In briefest terms, the question is whether the corporate profits tax should be calculated on the basis of real profits or nominal profits.
   B. The problem requires more explanation than many of the issues we have dealt with.
      1. Mr. Lindquist, can you explain the difference between real and nominal profits, using the whiskey industry to illustrate?
      2. Suppose that a liquor company spends $100 million distilling whiskey in 1973.
      3. Suppose further that it ages the whiskey for 10 years and sells it in 1983 for $150 million.
      4. Suppose also that prices on the average rise 50% between 1973 and 1983.
      5. Ignoring all other costs to simplify the example, how much are nominal profits? Real profits? ($50 million and zero respectively.)

IV. As I said on Tuesday, the second step in the SOP is to make sure we include more than one goal and more than one option and that we use the tools of economic analysis at our disposal.
   A. Once the procedure has been mastered, it's best to omit it in writing a position paper.
   B. Mr. Lindquist, what are the main goals or objectives you want to use in evaluating the possible policies? (Fairness, allocative efficiency, feasibility.)
   C. Are there policy options besides the two already stated in defining the problem that you want to consider?
      1. In this instance, I would say not.
      2. But there is a complication: if the corporate income tax is levied on real profits, what happens to the tax receipts of the government? (Go down)
      3. Then what must the government do? (Raise tax rates)
      4. I propose that we assume the government will raise the tax rate on corporate profits just enough to yield the same revenue.
         a. Suppose that nationwide, nominal profits are $200 million, real profits $150 million.
         b. A 50% tax on nominal profits is then equivalent to a 67% tax on real profits, both yielding $100 million.
         c. OK?
   D. What economic concepts have we already used? (Allocative efficiency, distinction between nominal and real income distribution, constant vs. current dollars)
      1. We can add to the list of concepts and principles later.
      2. OK?

V. Mr. Lindquist, please analyze the consequences of shifting the corporate income tax from nominal to real profits, raising the rate just enough to keep the government from losing revenue.
   A. What would be the effect on income distribution? Who would gain, who would lose? (Corporations producing commodities like whiskey with a long

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production period would gain; corporations producing services—which have a very short production period—would lose.)

1. While we are at it, let's also evaluate the comparative fairness of the two methods of taxation.
2. Mr. Lindquist, which do you think is fairer? Why?
3. Which principle of taxation is relevant here, benefit or ability-to-pay?
   a. Note that we need to add to the list of concepts and principles.
   b. If the ability-to-pay principle is the right one, should the profits tax be levied on nominal or real profits? (Real.)

B. Since analyzing the effect on allocative efficiency is difficult, I'll let Mr. Lindquist sit down for a moment while I discuss it.

1. If the government taxes nominal profits, investment will be allocated to industries like services where the difference between nominal and real profits is not very great.
2. If the government taxes real profits, investment will be allocated to industries like whiskey where the difference is great.
3. The result of taxing nominal rather than real profits is to allocate too little investment to products like whiskey, too much to services like massage parlors.
4. The reason is that consumers are interested in real goods and services.
5. Switching to taxing real profits rather than nominal profits would improve the allocation of resources.

C. The remaining question is whether taxing real profits is practical. Is it, Mr. Lindquist?

VI. What is your conclusion, Mr. Lindquist?

A. Should the government go on taxing nominal profits or should it switch to real profits?

B. Why?

C. Do the rest of you agree?

[*Evaluation*. The device of putting an articulate student on the griddle worked well. The case took the whole period and went over much better this time than last spring. V. B. (esp. V. B. 4) involves a difficult point which I probably did not make clear, but it was, I think, a useful additional step toward teaching the idea of allocative efficiency.]

V. Papers Written by Students for this Course

As noted in Section I above, a short paper of 1,000 words or less on a policy issue that had not been discussed in class was required of all students, and extra papers could be substituted for missed quizzes. Students who turned in papers early enough were given written comments and an opportunity to revise the paper to earn a higher grade.

Part of the assignment was to choose a good subject from among the cases then available. (Students were also permitted to formulate their own subject but had to clear it with the instructor in advance. Only 3 percent did so.) "Improving the Investment Tax Credit," which has since been published as Case 13 in the Fels-Uhler *Casebook*, proved to be the best choice, partly because a similar but less complicated

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case (later incorporated into the "Instructions" to Part Five of the *Casebook*) had been discussed in class. Case 4, "Lead Tax," and Case 25, "Storm King," were also good subjects but required a better grasp of the difficult concept of allocative efficiency than many of the students had. The same was true of the most popular choice, a case on "Mercury Pollution" that was not included in the published *Casebook*. Nearly two-thirds of the papers were on these four cases. The entire grade distribution follows:

Grade	*All (103) Students*		*Students (20) Submitting Extra Papers*	
	No.	%	*No.*	%
Excellent	6	5	3	6
Good	38	31	8	17
OK	53	42	21	45
Weak	20	16	10	21
Unsatisfactory	6	5	5	11
Total papers	123	100	47	100

The table shows that the overall distribution was biased downward by the twenty students who wrote optional papers in an effort to improve their grades. Most of these were weak students. Four of the six grades of "unsatisfactory" went to a single person. He and some others did a hasty job on more than one paper instead of concentrating their efforts on writing one good one.

Some students turned in papers in advance of the deadline. Particularly with those submitted a week or more early, I read the papers carefully, made comments, and where appropriate returned them for revision. The papers turned in at or just before the deadline had to be read quickly in order to return them by the last day of class, and the students had no opportunity to revise them.

In retrospect, I realize that I should have set an earlier deadline. in fact, I should have had a series of staggered deadlines, instead of giving all students the same one. The educational value of the papers lies to a great extent in revising them in response to criticism. In addition, with earlier staggered deadlines, I could have used the papers for class discussion.

One of the papers that received a grade of "excellent" follows.

Analysis of Case 13: Improving the Investment Tax Credit

Economics 100—Section 1
April 1973

The United States is presently in the need of creating jobs and increasing its productivity. Unemployment and a low degree of output indicate that there is not enough spending (Aggregate Demand, A) in relation to what the society is *capable* of supplying (B at Full Employment). (See Chart I) What is needed is a larger equilibrium level of output, E, a result of an expansionary fiscal policy which will increase

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investment (spending on new job-creating and income producing goods which add to GNP) and will in turn increase Aggregate Demand. (See Chart 2) If there is an increase in Aggregate Demand (A') there would follow an increase of Supply which would result in a higher equilibrium level of output (E')—thus, more jobs and greater production. The problem involved in this case is deciding what fiscal policy is the best to stimulate the investment in order to decrease unemployment and increase productivity.

An expansionary fiscal policy will involve either an increase in government spending or a decrease in taxation. The alternatives available, then, are the 1) reduction of taxes by a 10% investment tax credit (Nixon proposal), 2) a government subsidy for purchases of equipment over the average amount purchased within the past three years (Eisner proposal), or 3) Government Spending in areas of education, health, job-training, housing, city renewal and non-profit institution. To find the best possible fiscal policy the alternatives must be judged in terms of goals of efficiency (whether employment and productivity will be sufficiently increased) and Income Distribution.

Although Government spending in areas of education, job-training, and health would have in the long-run a multiplier effect on national income and therefore would increase spending which in turn would raise Aggregate Demand, the effect of the government spending will take a long time to manifest itself. There is an immediacy to the problem which makes this fiscal policy less efficient than one that will create jobs and raise productivity in a shorter time period. Increasing Government spending is also inefficient in that government may be in competition with private business enterprises which would lower business investment purchases and counter-balance government spending, therefore leaving Aggregate Demand the same.

Reducing taxes is an efficient way to create excess profits which can be used for investment. The policy alternative of President Nixon of 10% investment tax credit for business purchases would definitely raise profits of businessmen about $7 or $8 billion but it may not be the most efficient way to create jobs or increase productivity. It is questionable as to whether or not excess profits will be used by companies for investments—they tend to change investment plans slowly dependent on overall economic activity, and also even if they did decide to increase investment, it would be a while before the expected results would occur. Businesses are profit motivated and therefore they would invest regardless of the tax credit therefore the resulting increase of the budget deficit is for no significant purpose if investment would occur without it and the loss of government revenue is not assured of being made up by increased investments which would multiply national income.

Eisner's plan of increasing investment seems to be the most efficient. The budget deficit increase is worthwhile due to the *assurance* that more investment has occurred. Only purchases over the average number purchased within the past three years are subsidized, therefore the policy alternative is more an efficient reward for investment rather than an insufficient incentive for investment. It is also more efficient in that the policy is geared for short-range results, more quickly alleviating the problem of unemployment. The most efficient way, therefore of inducing investment in order to create more income to increase spending in order to raise aggregate demand would be to adopt the fiscal policy of government subsidy of purchase over the average number of purchases over the past three years.

Robert Eisner's policy alternative seems to be the most efficient means of inducing investment to create jobs and raise productivity but it also is satisfactory in terms of income distribution. Government subsidies would increase *not only* the large wealthy stockholders of industry as would the 10% investment tax credit but also a wide range

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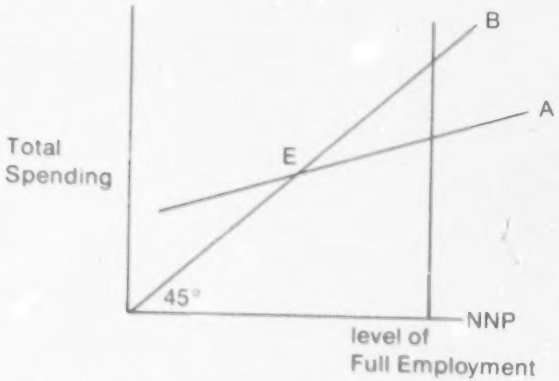
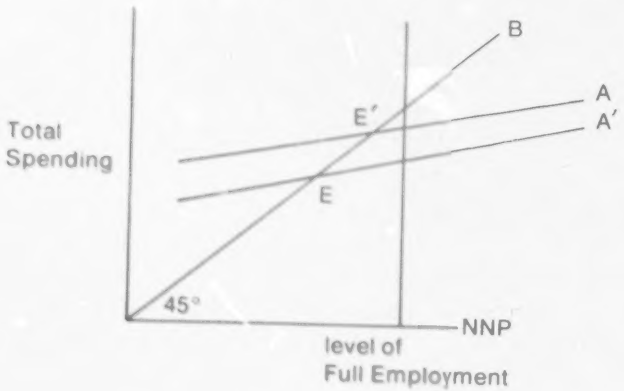
of those institutions, profit, non-profit or governmental who sought to purchase equipment. A wide distribution of increased incomes would also result from an increase in government spending but, as already shown, the results of government spending are not as significant in relation to job creating or production increasing as is government subsidy.

Since Eisner's policy is the one alternative of the three that is both efficient and fair in regard to income distribution it seems that it is the option that would be the best fiscal policy to use to stimulate investment in order to create jobs and increase national productivity.



1. Equilibrium level of output (B) such that if full employment conditions existed, supply would exceed demand, therefore there is a need to increase aggregate demand (A).

2. By increasing investment, aggregate demand is increased (A′) which will bring a greater Equilibrium level of output (E′)



AFTERWORD

On the basis of experience during the fall semester of 1974, significant changes will be made in the self-paced course described in the text. Section II proved too difficult for so early in the course. It will be divided. The easier concepts, such as externalities, opportunity cost, and consumer sovereignty will be kept in Section II. Allocative efficiency will be put into a new section, which will be numbered VIII. The present sections VIII and IX (Policy Issues: Elementary and Policy Issues Intermediate) will be renumbered IX and X. The present Section X (Policy Issues: Advanced) will be deleted (or rather, it will be incorporated in the final examination). The analytic tests will be given four times in written form instead of once. The syllabus and all the study guides will be revised. The revised versions will be available in February 1975. John J. Siegfried is conducting a thorough evaluation of the course. He expects to complete it in September 1975.

November 13, 1974

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For another approach to teaching the college introductory economics course in this series see also . . .

Special Issue No. 1

Syllabus for an "Issues Approach" to Teaching Economic Principles

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